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PUBLISHER'S NOTE.

Those subscribers who have not yet remitted for the present year are requested to do so at once, as this is the third number of the present volume, and we wish to get all our subscriptions paid up to the end of the present year.

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FRANCE AS A MILITARY POWER IN 1870 AND IN 1878.*

BY GENERAL SIR GARNET WOLSELEY.

THE believing student of prophecy had better grounds in 1846 for anticipating an early advent of the Millennium than he has now. War on a great scale had come to be regarded rather as an historical horror than as a future possibility; no progress had been made between 1815 and that date in military art, scarcely any in the appliances wherewith to practise it effectively. Although the philosophical student might possibly have been able to perceive below the surface of society the germs of that great democratic movement which exploded in 1848, sweeping through the capitals of Europe and shaking in its political upheaval the thrones of great and ancient monarchies, still they must have seemed

warnings rather of internal revolution than of foreign war; of a political change that would reverse the balance of power between classes, rather than an uprising of nationality against nationality, that would for ever after alter that equilibrium between States which had been devised with so much care and precision in 1815.

The more power was taken from the aristocracies and transferred to the people, the more it was thought trade would flourish and the spirit of warlike adventure and greed of conquest would diminish. The warnings, therefore, passed unheeded, or, if dwelt upon at all, were only regarded as precursors of an order of things that, from the cosmopolitan philosopher's point of view, promised to be altogether an improvement on the past. It is not to be wondered at, therefore, that those who had faith in an eventual reign of perfect and universal

* *The Armed Strength of France*: compiled in the Intelligence Branch of the Quarter-master-General's Department, Horse Guards, War Office, by Major C. J. East, 57th Regt., D.A.Q.M.G.

peace, should in 1846 have thought the realisation of their dream to be near at hand. To the thinkers of theories the wish was father to the thought. The world was to be governed by a new religion—that of peace—of which they were to be the ministering priests.

These sentiments strongly influenced civilised Europe, but in England they found their most pronounced exponents. The petition presented by the Peace party to the Czar Nicholas did not by any means appear so utterly ridiculous at the time as it would have appeared last spring. Although there are doubtless still many votaries of the theories upon which that party relied, it is doubtful if the party itself has now any organised existence; at any rate, the remembrance that it ever was anything more than a name even in England is owing to the St. Petersburg fiasco in 1854—an episode in our history that few, if any, practical men can now dwell upon with ordinary gravity.

During the epoch I have referred to, the armies of Europe were very imperfect as military machines; that of England was unworthy of being classed as a fighting implement fit to be employed against an enemy more formidable than a Kaffir or an Asiatic, and, even when so engaged, gained its ends always with difficulty, and not always without discredit and disaster. It was a police force dressed in the guise of soldiers. It was a body—a fine muscular body certainly—without a soul; all ranks were full of courage, without doubt the first and greatest factor in military excellence, but all other warlike instincts were wanting. Its generals, men of Peninsular experience, were old in body and old-fashioned in mind, whilst its regimental officers were entirely ignorant of their profession. They would have made the finest private soldiers in the world, but they were as little acquainted with the art and science of war as the rank and file they were commissioned to lead. It had many points in common with the army which Russia sent into the field last spring.

In France, even under its Citizen King, who was eminently a man of peace, the soldier was always regarded with pride and affection, and—although the result arrived at might be unsatisfac-

tory—the efficiency of the army was recognised as an object of great national concern. In this respect it had a great advantage over the military forces of England, part, and a most important part, of which—the militia—had been allowed to die a natural death, the only survivors being a few officers whose existence was assumed from their names being retained in the *Army List*. The private soldier had come to be despised as a drunken, useless member of society, because he did not add directly to the riches of the country by spinning cotton goods; his indirect value was naturally denied in an age believed to be the herald of perpetual peace; and the officer was merely regarded as a red-coated man of pleasure, or as a leading journal described him just before the Crimean War—I quote from memory—‘a reckless libertine in time of peace, and a licensed cut-throat in time of war.’ The French army learnt little from its promenade into Spain in 1823 and from its operations against Antwerp in 1832; at least there resulted no important reforms in its administration, no great improvements in its *matériel* or in its system of tactics.

The army of Prussia, which is now the admiration of the world, had not, in 1846, shown any sign of its coming greatness. As a military power Prussia had been crushed by Napoleon at Jena, and was forced to accede to stipulations which the conqueror believed would prevent her again—at least in his time—from appearing on the battle-fields of Europe. A scheme was, however, devised by General Scharnhorst for counteracting the evil effects of those humiliating stipulations, by means of which they should be respected in the letter, but directly contravened in the spirit. An army nominally of the inferior strength stipulated by treaty was kept on foot, yet in reality a large military force was being created but kept out of sight, and the result was the brilliant part played by Blücher's army in the campaign of 1815. Jena was avenged at Waterloo, and the monuments erected in Paris to commemorate the destruction of Prussia's military power were only saved from the natural fury of that gallant old hussar by the direct interposition of the great English Duke.

Prussia, which under Frederick became a great European power through the excellence of her army and the genius of its commander, sank in 1806 into insignificance; indeed it is a curious but still an interesting study to compare the contemptible position it occupied then, and for several subsequent years, with that it now holds in the world's esteem. The military system devised by Scharnhorst was not, however, an automatic machine, or one that could secure effective results, unless worked with intelligent skill. All systems must march with the times to be effective in moments of emergency. The condition of an army cannot remain stationary without deteriorating. Progress is essential to its health. Every invention and discovery in science acts more or less directly or indirectly upon it, requiring modification, and sometimes even radical changes in its administration, tactics, &c., and, if the necessary reforms are not effected, it falls behind in the race of military efficiency; the machine if left to itself rusts. In the hands of old men an army is prone to live upon its past reputation, until at last all desire for progress is stamped out, and those who, like the author of the *Tactical Retrospect*, like Stoffel, like Trochu, recognising its shortcomings, dare to recommend reform, are pointed at as Radicals, as men who would overturn the nation's most cherished institutions, and, if so, why not even Royalty itself? From 1815 to 1849, and even to 1859, such was the fate in a great measure of the Prussian army. A military system which, when directed by clear brains and stout hearts, was capable of turning out the army that invaded Bohemia in 1866 and France in 1870, when worked in a perfunctory manner under feeble chiefs, produced the inefficient force that served the King of Prussia up to about 1859. Most of us can remember how humble was the rôle played by that country during the Crimean war, and many can recollect, a little further back still, the stormy epoch of 1848, when the Imperial crown of Germany was offered to Prussia's king by the Revolutionary Diet. Why was it refused by him? It could not be expected that the successors of the great Frederick should be withheld by qualms of conscience. His

ancestors had obtained great accessions of territory by a course of conduct which did not suggest too nice scruples in such matters, and they had, from being poor Electors of the insignificant province of Brandenburg, by such means bloomed out into being kings of what they called Prussia.¹

William is not, therefore, likely to have refused the Imperial crown because he thought it belonged by any prescriptive right to another Royal house, or because the hands that offered it were hard and horny and far from clean. It was not that he, an aristocrat, would not stoop to accept that precious bauble from revolutionary citizens, for he had been for some time coquetting with them, and would gladly have received their proffered present. He allowed 'I dare not to wait upon I would.' Austria's demeanor was not to be mistaken. She would not permit it; and by a strong army, massed along the frontier of Prussia, said to the latter, 'Accept that crown, which I claim as mine by right, at your peril.' The king could not accept the challenge, because his army was unfit for war; the Landwehr held back and did not respond to the summons calling it out. The army could not be made up to war strength, and what is known in history as the 'Political Capitulation of Olmutz' represented the final closing of the period of Prussian military development which had its origin in the great army reform of Scharnhorst. The great reforms that changed the whole character of the Prussian military forces, converting them from a Landwehr into an army, began in 1859.

Power in Prussia fell into other hands than those which wielded it in 1855-56, before all that was valuable in the older system attained the completeness which enabled her army to conquer at Königsgratz. The Prussians, having recognised that their army was not fit for a great war, set themselves the task of making it fit for war—the only real test of an army's efficiency. They possessed the great faculty of knowing how to wait—a great power in all human affairs—to which they added industrious application. It would be foreign to my subject were I to attempt any description of the reforms and changes effected in the Prus-

sian army during the years immediately preceding Königsgratz; but it is desirable I should remark that they were carried out by able, studious, practical soldiers who despised no minutiae, and who spared no trouble and no thought in working out the great problems entrusted to them, on the due appreciation of which hinged all their hopes of future national greatness. Above all things, be it remembered that it was during a dark and gloomy epoch of Prussian history, whilst she lay sunk beneath the contemptuous neglect of Europe, that her present military efficiency was developed, and her strength built up. During the period to which I refer, few statesmen or generals concerned themselves with what was passing in a poor little modern kingdom which most thought it rather a courteous concession to reckon amongst the great Continental powers.

Yet it was then that the able soldiers whose names first became known to fame in 1866 were quietly, in an unobtrusive and methodical fashion, creating that military system which is at once the admiration of all nations, and the model upon which they strive to form their armies. Their doings and the results they had achieved were, however, perceived by at least one man, and duly reported to his Government in despatches of which the world in general knew nothing until they were published by the Prussians themselves, having been captured, amongst other official documents, near Paris in 1870. In a manner that does infinite credit to his patriotism and to his abilities, Baron Stoffel compared the shortcomings of his own army with the order and efficiency which characterised that of Germany. He pointed out the excellence of the machine, not only in design, but in the intelligent and yet easy manner in which it was worked, bringing to light the rapidity with which it was set in motion, and the great improvements that had been introduced into its mechanism after the experience gained in the 'Seven Weeks' War.'

His warnings passed unheeded; the rulers of France were so blinded by self-confidence and unreasoning pride, that when the First Minister declared war in 1870, he said that he did so 'with a light heart.' But when crushed by de-

feat she made peace, and as a first duty had to reorganise her military system, Baron Stoffel's letters served to indicate the point from which her military administrators should start in their work.

The publication now under review affords us a mass of information as to the manner in which that work has been carried out, and affords us ample materials for estimating the present military strength of France. We are bound to acknowledge that it is extremely dry reading; the author being evidently afraid lest he should afford any information that had not been published to the world in Paris. He gives us most interesting figures as to what the strength of the French army should be, but he throws no light upon what it actually numbers at this present time: he describes the organisation and objects of the military colleges and army establishments, but he tells us nothing of their present condition, or whether they have succeeded and answered the purposes for which they were created. It is well known that the archives of the Intelligence Department contain ample information as to the present condition of the French army, and as to its value as a military weapon in the hands of those who wield its power; but this is kept from the ear of the Minister of War, the Commander-in-Chief, and other high officials. It is of little use to know that an army numbers half a million of men, unless we are told their value as soldiers. This reticence is unfortunately necessary on the part of officials, especially in works published by official departments. I shall therefore endeavor to clothe with flesh the skeleton of dry details and figures supplied by Major East of the present condition of an army that may possibly play a great part in this coming year.

Before proceeding to deal with the figures in this book, a word, in passing, on the department from which it emanates will not be out of place. That most important branch of our army headquarter staff is in reality of very recent date, although nominally we have long had a department that was supposed to fulfil its duties. Formerly it was little better than a badly arranged collection of maps and statistical information about foreign countries. Now,

under able direction, it has assumed its true position in relation to our army, and is engaged in working out the great military problems connected with the defence of Great Britain and of her distant possessions. It performs, in fact, what are generally regarded as the highest and most important duties devolving upon the staff of an army. Upon these duties its officers have been working studiously and in an unobtrusive manner for some years past. Works, similar in nature to that now before us, have already been published by it on the armies of most European nations; and I feel convinced that, should war at any time be forced upon us, our Intelligence Department will be found fully as equal to its duties as the corresponding department in any foreign army can have proved itself to be.

General Trochu, in his remarkable book on the *French Army in 1867*, said: 'Nous nous-sommes endormis dans la satisfaction de nous mêmes; nous nous sommes détournés du travail, négligeant les efforts, les recherches, les comparaisons, qui créent le progrès.' This self-satisfaction, this vain belief in the greatness of the French people and the invincibility of its army—sentiments converted into articles of national faith by the untruthful historians of the First Empire—precluded all inquiry into the grounds upon which that faith was based, and in 1870 prevented a sound comparison being instituted between the real military strength of France, even as regards actual numbers, and that wielded by Germany. Had not the power of Prussia been destroyed before by the French army? and why should it be doubted by a generation of Frenchmen educated in the writings of M. Thiers that what was so easily and effectively achieved in 1806 should not be re-enacted in 1870? Frenchmen travel so little beyond their own territory, they know so little of what is taking place elsewhere—being prevented studying the press and current literature of other countries by their ignorance of foreign languages—that the great changes introduced into the Prussian army in 1859-60 were practically unknown in France. Baron Stöfft endeavored to impress the Emperor and his War Minister with their importance, but without effect; the in-

formation he gave, the warnings he sounded, fell on stony ground and bore no fruit; 'la lutte de l'imprévoyance, de l'ignorance et de l'ineptie contre toutes les qualités opposées, la prévoyance, l'instruction et l'intelligence' ended, as such a struggle must always do, in defeat and in well-deserved disaster.

In 1845-46 the army of France numbered about 300,000 men raised by conscription in accordance with the law passed in 1832, which law, however, allowed the rich to purchase exemption from personal service by procuring others to serve in their stead. The annual contingent was then fixed at 80,000 men, of which a proportion—determined annually by the Chambers—only joined the colors, the remainder being allowed to remain at their homes on leave. Its cost to the country was about 10,000,000*l.* per annum.

No great or very important changes were made in the law of 1832 until 1868, although the number given, forming the annual contingent, varied from time to time according to the contingencies of peace or war. Sadowa and General Trochu's uncompromising *exposé* of the condition of the French army in 1867 seem to have waked up the military authorities of France to a realisation of the weakness of their army. That in actual numbers of soldiers ready for war it was far inferior to the army Prussia could assemble in a few weeks on the Rhine, seems then to have been recognised for the first time, whilst the absence of any really reliable reserve to fill up the losses occasioned by war dawned upon the whole people as a surprise. It was felt that, if their old position in Europe was to be maintained, their military force should consist of 800,000 men, one half of that number being the strength of the standing army in peace, the other half being its reserve. The army law then framed, establishing the principle of universal compulsory service, was devised with that object in view; if fully carried out it would have placed nine annual contingents of 100,000 men each at the disposal of the Government, whilst the formation of a great reserve army, to be called the National Guard 'Mobile,' was also decreed. This latter was to consist of all the young men not included in the annual contingent for the regular army,

and it would, it was estimated, when the new military system had reached its normal condition in 1875-76, give a reserve force of 500,000 men. The Chambers would not, however, agree to all the provisions of the law as laid before them by Marshal Niel, and altered those bearing upon the formation of the Guard Mobile so materially as to preclude all possibility of its ever becoming a really efficient reserve force. Indeed Marshal le Bœuf, who succeeded Niel as Minister of War, seems to have so thoroughly recognised this, that he took little trouble to give effect to that portion of the new military law. The result was that the declaration of war in 1870 found France without the reserve army which it had been one of the chief objects of the law, as proposed by Marshal Niel, to secure. A few battalions of this Guard 'Mobile' had been organised at Paris, and a few were in the eastern fortresses; but as a reserve it existed only on paper, and the small portion which had been drilled was so utterly worthless, from lack of discipline, that, after a short sojourn at Châlons, it was found necessary to send it back to Paris. Had it been even possible to have found officers and non-commissioned officers for it, and to have mobilised it to its full strength, the arsenals did not contain a sufficient supply of breech-loading rifles or of clothing, &c., to have armed and equipped a reserve force of 500,000 men.

In July 1870 the war strength of the regular army of France was 567,000 men; but deducting from that number the *gendarmerie*, the troops composing the *dépôts*, and the garrisons at home and in Algeria, the force available for field operations against Germany would not number more than a little over 300,000 men. This was divided into eight army corps and three reserve divisions of cavalry, consisting in all of 368 battalions, 252 squadrons, 984 field-guns, and three regiments of engineers.

The punishment that pursued the crime, the madness, of declaring war against Germany, whose field army was two-thirds stronger, and possessing vast and fully organised reserves of well drilled and well disciplined men behind it, is a matter of history with which I need not here concern myself. Without seeking for the national characteristics

peculiar to either combatant to account for the overwhelming disasters that befel France as the result of their act of criminal folly, the disproportion between their armed strength is amply sufficient to account for the result. From the first general action—not, of course, including the painful episode now only remembered from having been impiously announced to the world as the 'Baptism of Fire' of the boy prince—to the final destruction of the regular army, Napoleon's troops were outnumbered, I may say, in every battle. If the French military system had been a machine in good working order, and capable of being easily and effectively put in motion, the disproportion in numbers between the combatants in the early engagements on the frontier ought to have been reversed; and it may be fairly assumed that under such circumstances their immediate results would have been favorable to the French, whose regular troops fought even against odds in those early battles with courage and devotion. It was those early defeats that began the demoralisation which culminated in Sedan. It is commonly believed in England that the French fought badly all through the war. This is a gross libel upon their regular army; for, although badly handled at Gravelotte and in the actions round Metz, its courage and actual fighting qualities were conspicuous. Sedan and Metz were its graves; and the ghosts of armies subsequently collected by a Ministry of *avocats* could not be expected, in the nature of things, to maintain the ancient prestige of French military power, when called upon to face the best regular army in Europe. Numerous as were the short-comings of their leaders, imperfect as was their military system, vain, presumptuous, and ignorant as the regimental officers may have been, one need not go back to all these unfortunate facts to account for the complete collapse of the French military power in 1870: their armies were crushed by superior numbers. Defective as their regular army was, it could most certainly have protected France from the disasters which overwhelmed her, if the military forces of Germany had not been numerically as well as morally so vastly superior to hers. The great numerical superiority of the German army enabled it to

deal such crushing blows at the outset of the campaign; that the demoralisation they engendered among MacMahon's soldiers rendered them subsequently an easy prey at Sedan.

The French have never been good at fighting a losing game. Reverses with us and with our cousins, the Americans, serve to stimulate to increased exertion, to give us renewed energy; but with the Latin races it is otherwise: misfortune engenders despair; there is a want of self-reliance in their disposition that tends to convert early failure in any undertaking into demoralisation, and with all people, when demoralisation has once taken hold either of individuals, or of communities, or of armies, it is likely to degenerate quickly into cowardice. The *élan* on which the French pride themselves so much is the offspring of success, and success only. 'First blood' has even with us been always regarded as an omen of good fortune, but to a French army it is a preface essential to victory.

If I am correct in saying that much of the disasters that befel the French army in 1870 arose from the demoralisation in its ranks engendered by the defeats it experienced at the opening of the campaign through insufficiency of numbers, I have given ample reason why it is worth our while to examine what would be the fighting strength of France next spring should her interests require her to appear as a belligerent in Europe. Let us glance in passing at the great reforms recently introduced into her military organisation, and the improved instruction afforded to all ranks. Amidst the turmoil of internal party strife, important changes have been worked out quietly and effectively; the struggle for power by the several political parties into which France is divided has not in any serious manner hindered military progress. The direction and management of army affairs have been kept distinct, and outside the realm of party faction. The excellence of the French civil administration, the completeness and perfection of its machinery, has enabled the War Ministry to carry out the new recruiting law of 1872 with ease and rapidity, and the well-established territorial division of the country lends itself to the new military system based upon it. The first principle of that law is the obliga-

tion of every Frenchman to personal military service. Substitutes are not permitted, and although exemption from personal service is permitted under certain clearly defined conditions, the law is that every man from twenty to forty years of age who is physically fit for work may be required to serve either in the regular army or in its reserves. Those who have at any time been convicted of serious crimes are not allowed to claim the honor of wearing a soldier's uniform. The full term of military service, viz. twenty years, is divided into four periods—1st, five years in the regular army; 2nd, four years in its reserve; 3rd, five years in the territorial army; and 4th, six years in its reserve. In order that this obligation should in peace time fall as lightly as possible upon young men studying for the learned professions, &c., a certain number—to be determined from time to time by the Minister of War—who pass a specified examination are allowed, upon paying down a lump sum of money for the cost of their clothes and food, to reduce their term of service with the colors to one year, at the end of which they have to pass an examination in military subjects, or to go on serving for twelve months longer. The amount per man so paid this year was fixed at 60*l.*, but under certain circumstances applicants can obtain a reduction or entire remission of this payment.

The population of France, which may be taken at 36,000,000, has during the last four years given an average of 292,000 young men who have each year attained the age of twenty. After deducting from that number those taken for the auxiliary services (23,500 per annum), those exempted from the service owing to physical disabilities, from family reasons, and because they belong to religious or educational services, in round numbers, a little less than one-half remains, and from it the annual complement for the naval service, 6500, must be deducted. Allowing for every deduction, absentees included—for there are army absentees in France as well as in England—this annual contingent for military purposes amounts to 133,000, divided into two classes, the first of 83,000, who remain with the colors nominally for five years, and the second of

50,000, who from financial reasons are only kept with regiments for periods of from six to twelve months, where they remain *en disponibilité* until they pass into the reserve. In reality, the first class are barely four years in the ranks, for the men do not join until six months after the date from which their service is calculated, and they are allowed to leave their regiments on furlough six months before the expiration of their term of service.

On the 1st of January, 1878, the active army with the colors will therefore consist of, the first class of five annual contingents of 83,000 each, plus the second class of the contingent for the current year, the permanent cadres of the army, the one year volunteers and the re-engaged soldiers, calculated to give altogether, in round numbers, 534,000 men,* due allowance being made for casualties; and *en disponibilité*, of four annual contingents of 50,000, calculated to give about 184,000 men, similar deductions being made. The total strength of the active army will therefore be 719,000 non-commissioned officers and men, or, adding the officers (26,499), the grand total will be, in round numbers, 745,000 of all ranks, not including the gendarmerie, or garde républicaine, which together amount to 27,000 men. The reserves of the active army will in future consist of the men who, having reached the age of twenty-five, have completed their term of five years' army service—that is, will consist of four annual contingents plus a proportion of the cadres, &c., who will annually pass from regiments into the reserve. When this reserve has reached its normal strength in 1881, it will consist of 520,000 men, all of whom it is intended to call out twice during their reserve service to take part in grand manœuvres; once during their second, and once during their fourth year's reserve service, but upon both occasions for a period of twenty-eight days.

* The actual number provided for by the Budget of 1877 as present with their corps was only 441,147; the difference is owing to the fact already mentioned, that the men in reality only serve four, instead of five, years with the colors; this reduces the numbers I have given as actually present with their regiments by one-fifth, who are really on furlough, but available at any moment for service if required.

Although this reserve created by the law of 1872 will not be in existence in its complete form until the end of 1881, it may be safely assumed that the reserve actually available at this moment amounts fully to 500,000 soldiers, who have all been trained in the regular army, for few of those who fought in 1870 are still with the colors.

The men, on completing their army reserve service, pass into the Territorial Army for five years; they will therefore be twenty-nine or thirty upon joining, and will remain in it until the age of thirty-four or thirty-five. When it has reached its normal strength in 1886, it will consist of 594,000 men, allowance being made for casualties. At the age of thirty-four or thirty-five, the men will pass into the reserve of the territorial army, in which they will remain for six years to complete the full term of twenty years' military service, which in future all Frenchmen, not exempted for the reasons already stated, will have to give their country. When this reserve has reached its normal strength in 1892, it will number 638,000 men.

In the last-named year the military strength of France will be in round numbers as follows:—

Active army.....	719,000
Reserve of active army.....	520,000
Territorial army.....	594,000
Reserve of territorial army.....	638,000
Total.....	2,471,000

This grand total does not include officers nor the gendarmerie, nor the non-combatants annually allotted to the auxiliary and administrative services, manufacture of warlike stores, construction of fortifications, railways, telegraphs, &c. As already stated, 23,500 men are each year told off to these auxiliary branches, but do not serve during peace. There are already about 90,000 of them in existence available if required, which number will be increased to about 180,000 in 1881, and to 191,000 in 1892, when the military system will have attained its normal development.

As regards the present condition of the territorial army, much has recently been effected to make it a reality, by organising the cadres of the 145 regiments into which it is divided, appointing officers to it, &c.; but nothing has yet been

done, even on paper, towards forming its reserve. It may, however, be safely assumed, that in the event of a war this year, the territorial army itself would certainly number 500,000 men, two-thirds of whom would have previously served either in the regular army or as 'Mobiles' during the late war, for whom an abundance of officers would be available. Should France take the field in 1878, I believe its military forces would be as follows:—

Active army.....	719,000
Reserve of active army.....	500,000
Territorial army.....	500,000
Auxiliary services of workmen, &c.....	90,000
Total.....	1,809,000

This total does not include officers, gendarmerie (22,000), the Republican Guard (3800), nor the Customs and Forest Guards (13,400).

The active army is divided into eighteen army corps stationed in France and one in Algeria. Each of the former consist of two infantry divisions, the latter of three, one being stationed in each of the three provinces into which that colony is divided. The fighting strength of each army corps is 25,000 infantry, about 1800 sabres, 102 guns and 1000 engineers, making a total in round numbers of say 30,000 fighting-men, exclusive of police and the administrative departments. France is apportioned off into eighteen regions, each having a population of about two millions, and each containing the head-quarters of an army corps. Each region is subdivided for purposes of military administration into eight subdivisions, in each of which there are one or more magazines of arms, clothing, &c., and one or more recruiting offices, in which are kept the lists of the men belonging to the army, its reserves, &c. For each region there are also general supply magazines of all sorts of military *matériel* from which the subdivision magazines are kept supplied. Each region is thus self-supporting, and an ample supply of arms and stores are kept in it to equip not only all the troops belonging to its army corps, but all those belonging to the *depôts*, army reserve, and territorial army, for whose organisation it is responsible. One great point of difference between the French and

Prussian system of recruiting is that, whereas in Germany each army corps is furnished with men drawn exclusively from the region in which its head-quarters in peace and its *depôts* in war are localised, it is only the men belonging to the second class of the annual contingent in the French army who, when mobilised, serve exclusively with the army corps belonging to their own territorial region. The men of the first, or, as we should term it, the standing army, are recruited generally from all parts of France, so that in every division, in every battalion, may be found men from Marseilles, who can with difficulty make themselves understood by their comrades in the same company drawn from Normandy. This is a blot, a weakness in their system, which its conservative framers evidently felt was unavoidable on political grounds. They recoiled with dread from encouraging a provincial spirit, in which they believed they saw, if not actually separatist tendencies, at least the germs of revolution. The demon of revolution is apparently never absent from the minds of the French statesmen; it is their national bogey, the flapping of whose wings gives forth a sound terrifying to every man in France whose property is more than the coat on his back. If the Republicans obtain the upper hand in the struggle they are now waging with the executive authority, it is possible they may assimilate their system of recruiting to that of Germany.

When the French army was mobilised in 1870 there were ample stores of arms, clothing, &c., of transport and other material, for it; but, in accordance with the system of centralisation then existing, they were so massed in a few grand arsenals and magazines that it was physically impossible to issue them to the troops in due time. Alas! this is still our system in England, for, practically speaking, all our eggs are in one basket, and that basket is Woolwich, a place extremely unsuited for the purpose. Were our storehouses there destroyed—say by an incendiary—at the beginning of a war, we should be in a bad way. In 1870, in order to economise storage space in their magazines, the wagons and carts for transport purposes were stacked in pieces, the bodies by themselves, the wheels and other parts the same. When

suddenly required, it was found it would require about six weeks merely to put them together and get them out of the magazines for issue to the troops. Not only are they now distributed at many storehouses and kept with their wheels on ready for immediate use, but they are kept loaded with the *matériel* they would have to carry if the army were suddenly mobilised. A great and salutary change has been recently effected in relieving the general commanding an army of the trammels which before the war were thrown round him by the Intendance. He is now—as he must be in every well-organised army—solely and directly responsible to the Minister of War for the entire military administration of the region and troops placed under his command.

I believe it may be most truthfully asserted that to what is known in our army as the 'five years' rule' we owe very much of our present military efficiency. According to its provisions, all commands—the position of Commander-in-Chief of the Army alone excepted—from that held by the General Commanding-in-Chief in India to the command of a regiment of cavalry, or a battalion of infantry, can only be held for a period of five years. If by mistake a bad or inefficient man does obtain a command—an accident that will occur as long as man is fallible—we have at least the consolation of knowing that we shall get rid of him at the end of five years. This rule must eventually result in securing to us a pre-eminence in the efficiency, both mental and physical, of our officers over those of all other nations. In the command of army corps, the French have gone a step further in this respect, only permitting those commands to be held for three years, except under most peculiar circumstances, and then only by the special decree of a Ministerial Council. It remains to be seen whether, if the party which now commands a majority in the Chamber obtain the control of military affairs, it will carry out this law impartially, or use it as a cover for Republican jobbery regardless of the interests of the army.

As the constitution of our infantry regiments is a subject which came indirectly before Parliament last session, and may probably be again discussed in

1878, it will be instructive to study the establishments fixed for that arm of the service in France. The result of battles must always depend, not only upon the conduct of the infantry, and the manner in which it is handled, but upon its tactical value: and that again—apart altogether from the courage and physical condition of the men—upon its armament, its drill, discipline, and its tactical organisation. It is universally admitted that the last named, to be perfect, should correspond in all arms of the service with the organisation for administrative purposes. In nearly all modern armies, the battalion war strength is about 1000 fighting men. When Prussia adopted the system of strong companies with few commissioned officers, she was such a very poor country, that, in order to create the great army with which she took the field in 1866, it was absolutely necessary she should economise in every possible way, driving economy even to the very thin line which separates it from inefficiency. To employ as few officers as was compatible with the efficiency of battalions and companies was, therefore, a matter of great moment. The private soldier whose daily pay was to be counted in farthings, and who received no pension, was a cheap article, as every man was compelled by law to serve. But with the officer things were otherwise: he had to be paid so that he might live like a gentleman—a poor one certainly—whilst serving, and he had to be pensioned when no longer fit for work. The plan of having 250 men in a company, instead of the old standard number then common to nearly all armies—viz. 100—without increasing the complement of officers per company, was one eminently calculated to effect an immense saving in military expenditure. In accordance with it, a battalion of 1000 men would consist of only four companies, and would, therefore, only require four captains, instead of the eight or ten that such a battalion in other armies would have. As long as actual inefficiency was avoided, economy was the great object to secure; so the plan was adopted, and their tactical formations and manœuvres were altered to suit this new organisation. It was not, as it seems is commonly believed, that their system of strong companies was devised to meet a new order

of tactics. The 'ever unready' and 'ever too late' army of Austria, unprovided with breech-loading arms and badly-handled, was utterly routed at Königsgratz by its well-prepared and scientifically directed enemy armed with the needle-gun. Army economists in England at once jumped to the conclusion that the organisation of the army that had been victorious must necessarily be the best, and they lost no time in urging upon our War Department the advisability of copying the Prussian system of strong companies, and when the French army subsequently fell a victim to the same conquerors, even military men amongst us were found to advocate that measure. Before 1866 the French army was our common standard of excellence: we copied it in an almost servile fashion even to the peg-top cut of trouser, and the manner in which our overalls were strapped with leather; and it is not saying too much to assert that, were the German army to be defeated by that of China, the same men who were indignant with us for not assimilating our army in every respect to that of France before 1866, and who now clamor loudly for us to imitate that of Prussia, would then see good and wisdom only in the organisation of the Celestial army.

That we ought to take lessons from others, even from our enemies, is sound reasoning, copying from them all that is better in their system than in ours; but we should not rush to conclusions and accept as a fact that such or such a victory was owing to a superiority in the tactical organisation of the victors' regiments. Men who have themselves commanded infantry skirmishers in action will bear witness to the impossibility of any one captain being able to lead well more than about 100 soldiers at the outside under a heavy fire: it is physically impossible for him to exercise an effective supervision over a larger number in skirmishing order, or to communicate to them that direct impulse which must emanate from the company leader and from him alone. The old practice of fighting in a closely formed line that used to be likened to a rigid bar of iron has been rendered impossible by the destructiveness of breech-loading fire; in future, we must fight in a flexible line like that described by a chain-cable,

loosely and unmathematically laid on the ground between any two given points: we must be more or less in open order, with parts of the chain thinly occupied, whilst the men should be thick—in groups in fact—at other and, tactically speaking, more important points of it. This requires a larger proportion of officers to men than was necessary under the mechanical system of fighting in rigid lines, shoulder to shoulder. In 1870 the Germans complained loudly of the insufficiency of their established complement of company officers, and I see that Mr. A. Forbes—who is no mean authority on such a question—in his recent excellent lecture at the United Service Institution, attributes the Russian misfortunes at Plevna and the great disorder in their ranks during their attacks upon that place in a very considerable degree to the small proportion of officers to men in their companies. His impressive warning to us on this subject should be taken to heart by every one interested in our army. My contention is, that the Prussians were victorious in 1866 and again in 1870, not because they had large companies and but few regimental officers, but that their success was achieved notwithstanding the disadvantages they labored under, owing to those serious faults in their tactical organisation, and is attributable to causes having no relation whatever to their battalion formation. The one great tactical superiority which our army possesses over all others at present, and which most undoubtedly will go far towards helping us to victory should we ever be engaged in a death struggle with any Continental nation, is, that whilst our enemy's battalion of 1000 men will be divided into four unwieldy companies commanded by four captains, assisted by only a small number of officers, our battalions of a similar strength will have eight captains leading eight handy companies assisted by several subalterns. It is the firm belief of those who have themselves commanded British infantry in action, and who are therefore the best judges on this point, that the foreigner with his four clumsy companies, and without a proper proportion of officers, would be nowhere in such a contest. It must be confessed that there are some able men in our army who think other-

wise, but they are chiefly either mere theorists or are men who have never commanded a company of British infantry in action. It is, I think, very much to be regretted that, following the law of worship for success, the French have been led into adopting what, according to my view, is a serious mistake—namely, the German system of ponderous companies with few officers, a system devised by Prussia for economical and not for tactical reasons.

The active forces are armed with the Gras rifle and sword bayonet, the territorial army with the chassépôt converted on the Gras system. The calibre of both is the same—433 inches—and both use the same ammunition. The Gras rifle is sighted up to 1960 yards, and its mechanism is simple. The soldier carries 74 rounds of ammunition, which is nine less than he carried when armed with the old chassépôt: 10 rounds more per man are carried in the battalion ammunition cart, about 40 more per man in the divisional ammunition trains, and about 24 more per man with the army corps park. All the field-guns in use are breech-loaders, the largest being 3'74 inch steel piece on the Lahitolle principle, with which a proportion of the army corps batteries are armed. The divisional field batteries have the 3'35 inch, and the horse artillery the 2'95 inch bronze guns on the Reffye system. Percussion fuses only are used. Batteries of mitrailleurs are still maintained for field service. The proportion of guns to combatants is about the same as with us, viz., 3'3 per 1000. The attack formation for their infantry has been entirely changed since 1870, and does not now differ very materially from our own. The system of regimental transport for all arms of the service—which has recently been finally adopted by us after years of opposition—is now the law in France. Each infantry regiment in the field of three battalions is allowed 27 one-horse carts, 4 for the conveyance of officers' baggage, 3 for ammunition, 2 for tools, 1 for reserve supply of boots, &c., 17 for two days' dry and one day's preserved meat rations, besides 3 pack animals for medical panniers. To each battalion there is also a canteen-keeper's cart. These carts are all of the same dimensions, and officers are obliged to

pack their baggage in boxes made expressly to fit them. Each company officer is allowed one box, which, when filled, is not allowed to weigh more than 30'8 lbs. (that is 10 lbs. less than is allowed to our officers); a canteen is also carried for every four officers, its weight is about 26 lbs., and it holds cooking pots, plates, &c., for that number. Those articles are private property, but the canteen itself and the boxes to contain baggage are supplied by government to all grades. Every soldier carries two days' provision, including preserved meat in tins, which, together with what is in the battalion ration carts, makes the regiment independent of the divisional and corps trains for four days. The French soldier is not supplied with socks, which, according to our ideas, is a great mistake: the infantry man carries a total weight when equipped for war of 56 lbs. 9 oz., including arms, ammunition, accoutrements, a portion of a *tente d'abri*, &c.—a heavy weight for a man to stagger under during a march extending over, say, eight hours. In complete marching order the weight on the horse of a cuirassier is 19 stone 2 lbs., of a dragoon 18 stone, of a chasseur or husar 17 stone, including one day's rations for the man and one day's corn for the horse.

Our curious anomaly of brevet rank, which is a relic of the purchase system, is unknown in France, where no man can be promoted to a grade without being employed in that grade. Honorary rank does not exist, and if an officer is thought worthy of being promoted, he is considered worthy and fit to exercise the duties of the grade to which he is raised. One-third of the officers are appointed from the ranks, the others come from the military schools; all promotion amongst the officers up to the rank of captain is conferred, two-thirds by seniority and one-third by selection.

The French staff was tried and found wanting in 1870; since then great changes have already been, and are still about to be, made in it. A law on the subject is now before the Chambers. It contains all that is good, and avoids what is known to be radically wrong in our system by all who have had much staff experience in war. Almost all aides-de-camp and orderly officers must

be what would correspond in our army with those who have graduated at the Staff College, and they can only hold their appointments for three years, being ineligible for a similar position until after an interval of two years. Formerly the French staff was a corps apart; when an officer received his commission to it he severed all connection with the regiment in which he had hitherto served; thenceforward all his *esprit de corps* was for the staff, and not for any particular battalion or battery, as is the case with us, and once on the staff, always on the staff was the rule. The result was a great want of sympathy and cordiality between the staff and the rest of the army, which engendered envy and hatred on the part of the latter, and a supercilious feeling of superiority on the part of the former, which they took little care to conceal.

The staff school and schools of application are well-devised institutions for imparting instruction to the several arms of the service, although, as with us, the tendency is rather to pay too much attention to pure science in preference to practical subjects.

The system of instructing soldiers in reading, writing, and arithmetic in the regimental schools is good; all who are not proficient in the three Rs have to attend school daily for an hour, which in winter is prolonged to two hours. Great attention is paid to gymnastic instruction, and fencing is taught to the private as well as to the officer. Owing to the great expenditure in horses during the last war, they have become dear and difficult to obtain. To enable the State to obtain quickly the large amount that would be required in the event of war or sudden mobilisation, a special law was passed in 1874 enforcing the conscription of horses and mules. An annual census is taken of all six-year-old horses and four-year-old mules, the owners being obliged, under pain of a heavy penalty, to bring them bridled and shod to the appointed place of rendezvous, receiving payment on the spot for all those accepted, the price being fixed definitely in each year's budget.

In all the great military reforms effected and still being carried out in France, the Prussian army has been the model followed, as was the case in that same country a century ago, when the army of

Frederick was looked up to as the best in Europe. In their tactical arrangements, in the distribution of their troops into brigades, division and army corps, the German organisation has been carefully copied, and above all things it has been sought to give to their reformed army that power of rapidly passing from a peace to a war footing which has been brought to such a high state of perfection in Germany. It is now recognised that neither armies nor men to lead them can be improvised by a decree, as M. Gambetta endeavored to create them, and that, if any people wish to be eminently a military nation, they must during peace prepare for war. Every detail connected with mobilisation must be carefully studied and provided for by regulations, which every agent to be employed in that operation must clearly understand, so that every one may know his part, and be ready to play it at the shortest notice. In fact, the machine should be so ably devised, so skilfully put together, and so carefully kept in perfect working order during peace, that when war is determined on, the War Minister should have merely to telegraph to the commanders of army corps the simple order 'mobilise at once,' to cause the whole machinery to be placed in effective motion. To secure this desirable end, it is essential that the organisation of the troops and the system of military administration should be in peace what it is intended to be in war.

21,675,000*l.* is the 'ordinary credit' demanded by the War Department for 1878. One who has good opportunities for knowing, estimates that in the five years between 1872 and 1876, the French spent 160,000,000*l.* for military purposes, of which 70,000,000*l.* were expended on warlike material and fortifications. Yet we hear no complaint from the taxpayer on the subject. The people seem quietly determined to have an army worthy of the nation, and they are faithfully seconded by all ranks in the army itself, whose ambition is to do well. The officer, who was in former times little more than a *flâneur* in uniform, is now anxious to make himself a professional soldier. Formerly he cared little for information about foreign armies; now he is keenly alive to all that goes on in them, as proved by the existence of the *Revue*

Militaire de l'Etranger, by far the first military publication on the subject in Europe. No army suffered more from routine—red tape, as we commonly term it—than that of France before the last war: most returns and requisitions used to be made out in triplicate, and circumlocution, the inevitable attendant upon centralisation, ruled supreme. The antidote for this evil has been found in localisation. Their new defensive works, although not finished, have been pushed on rapidly, and most of their strong places are now well provisioned and supplied with the necessary stores to enable them to stand a siege. They suffer greatly from the want of good non-commissioned officers, a want that it is difficult to supply in a short-service army; we are beginning to feel it ourselves seriously in England, and unless we meet the difficulty by a large increase of pay—no penny-halfpenny addition will suffice—the efficiency of our army will suffer considerably.

I have as far as was possible, with due regard to the information it is desirable to convey in this article, spared my readers all strictly professional details. My object has been to show them, that whilst our attention has been mostly directed to the noisy struggles between those political factions who howl themselves hoarse at Versailles over questions of parliamentary procedure, the military direction, which politics have not yet been allowed to interfere with, has been steadily and seriously employed in creating a great powerful army. That it does not yet equal that of Germany, and cannot fully do so for about another ten years, is without doubt; but it is quite as true—remembering the greatly increased power now possessed by the defence—that France has no reason to dread any German invasion in 1878, even supposing that those desirous of crushing her could succeed in uniting what is now known as Germany with that object in view. I write this at a moment when it is impossible to predict whether Marshal MacMahon will or will not succeed in keeping the management of military affairs out of the domain of party politics. If he fails, it is possible the army may be used as a stalking-horse for Republican jobbery, and that its direction may pass into the hands of

men more desirous of party success than of national strength and greatness. France can never be great unless she is strong, nor really strong until her army is as powerful as that of any other nation in Europe.

The reorganisation of the Prussian army, begun in 1859, was carried on for several years by King William in the teeth of a great parliamentary opposition; the sympathy of England being strongly pronounced in favor of the constitutional party opposed to their sovereign and his military advisers. In like manner, we find that English opinion to-day is on the side of those who take their stand as advocates of parliamentary government in France, in opposition to the Marshal's views. We now know that the King of Prussia was right, and his people wrong, in the years immediately preceding the invasion of Bohemia. If the nation had had its own way then, the Prussian army, which is now the admiration of the world, would still be the Landwehr it was in 1858, and the successful wars which have converted the King of Prussia into the Emperor of Germany could never have been. It is possible that we may yet have to acknowledge that we are equally wrong now in our estimate of the condition of things in France; that mistaken as Marshal MacMahon may be in regard to home politics, he has—following the example of the Prussian King—at least succeeded in making France once more a great military power.

The year 1878 seems destined to be one of great events for Europe, and, as far as one can judge at present, of events pregnant with future injury to England in particular. Germany is our great natural ally as long as she remains simply a mighty military power; should she, however, take possession of Holland and its colonies, [her only object can be to rival us upon the sea. It is said she is anxious to see us embroiled in the Eastern war, so that she may do so without opposition. It would, no doubt, be possible to assemble a conference of men in St. James's Hall, who would loudly assert that her possessing herself of Holland was no concern of ours. If an enemy seized upon the Isle of Wight, there is a party in England that would not only deprecate our fighting for it, but would argue it was no loss, that it 'did not

pay.' But should the independence of Holland be threatened, no matter what that party might say, its impotent spluttering would be drowned in the cry for war that would certainly go forth from Land's End to John o' Groat's House. It would then be the alliance of France we should naturally look to. Holland, Belgium, France, and England allied together would form a league, that even

proud Germany would feel was too powerful for her to face. Should that union of nations in the defence of right pass from the region of speculation into the world of reality, I hope I have shown that the army of France would be no unimportant factor in summing up the military forces which those allies would have at their command.—*The Nineteenth Century*.

SPONTANEOUS GENERATION.

BY PROFESSOR TYNDALL.

WITHIN ten minutes' walk of a little cottage which I have recently built in the Alps, there is a small lake, fed by the melted snows of the upper mountains. During the early weeks of summer no trace of life is to be discerned in this water; but invariably towards the end of July, or the beginning of August, swarms of tailed organisms are seen enjoying the sun's warmth along the shallow margins of the lake, and rushing with audible patter into the deeper water at the approach of danger. The origin of this periodic crowd of living things is by no means obvious. For years I had never noticed in the lake either an adult frog, or the smallest fragment of frog spawn; so that, were I not otherwise informed, I should have found the conclusion of Mathiole a natural one, namely, that tadpoles are generated in lake mud by the vivifying action of the sun.

The checks which experience alone can furnish being absent, the spontaneous generation of creatures quite as high as the frog in the scale of being was assumed for ages to be a fact. Here, as elsewhere, the dominant mind of Aristotle stamped its notions on the world at large. For nearly twenty centuries after him men found no difficulty in believing in cases of spontaneous generation which would now be rejected as monstrous by the most fanatical supporter of the doctrine. Shell-fish of all kinds were considered to be without parental origin. Eels were supposed to spring spontaneously from the fat ooze of the Nile. Caterpillars were the spontaneous products of the leaves on which they fed, while winged insects, serpents, rats, and mice

were all thought capable of being generated without sexual intervention.

The most copious source of this life without an ancestry was putrefying flesh, and, lacking the checks imposed by fuller investigation, the conclusion that flesh possesses and exerts this generative power is a natural one. I well remember when a child of ten or twelve seeing a joint of imperfectly salted beef cut into, and coils of maggots laid bare within the mass. Without a moment's hesitation I jumped to the conclusion that these maggots had been spontaneously generated in the meat. I had no knowledge which could qualify or oppose this conclusion, and for the time it was irresistible. The childhood of the individual typifies that of the race, and the belief here enunciated was that of the world for nearly two thousand years.

To the examination of this very point the celebrated Francesco Redi, physician to the Grand Dukes Ferdinand II. and Cosmo III. of Tuscany, and a member of the Academy del Cimento, addressed himself in 1668. He had seen the maggots of putrefying flesh, and reflected on their possible origin. But he was not content with mere reflection, nor with the theoretic guess-work which his predecessors had founded upon their imperfect observations. Watching meat during its passage from freshness to decay, prior to the appearance of maggots he invariably observed flies buzzing round the meat and frequently alighting on it. The maggots, he thought, might be the half-developed progeny of these flies.

The inductive guess precedes experiment, by which, however, it must be

finally tested. Redi knew this, and acted accordingly. Placing fresh meat in a jar and covering the mouth with paper, he found that though the meat putrefied in the ordinary way, it never bred maggots, while the same meat placed in open jars soon swarmed with these organisms. For the paper cover he then substituted fine gauze, through which the odor of the meat could rise. Over it the flies buzzed, and on it they laid their eggs, but, the meshes being too small to permit the eggs to fall through, no maggots were generated in the meat. They were, on the contrary, hatched upon the gauze. By a series of such experiments Redi destroyed the belief in the spontaneous generation of maggots in meat, and with it doubtless many related beliefs. The combat was continued by Vallisneri, Schwammerdam, and Réaumur, who succeeded in banishing the notion of spontaneous generation from the scientific minds of their day. Indeed, as regards such complex organisms as those which formed the subject of their researches, the notion was banished for ever.

But the discovery and improvement of the microscope, though giving a death-blow to much that had been previously written and believed regarding spontaneous generation, brought also into view a world of life formed of individuals so minute—so close as it seemed to the ultimate particles of matter—as to suggest an easy passage from atoms to organisms. Animal and vegetable infusions exposed to the air were found clouded and crowded with creatures far beyond the reach of unaided vision, but perfectly visible to an eye strengthened by the microscope. With reference to their origin these organisms were called 'Infusoria.' Stagnant pools were found full of them, and the obvious difficulty of assigning a germinal origin to existences so minute furnished the precise condition necessary to give new play to the notion of heterogenesis or spontaneous generation.

The scientific world was soon divided into two hostile camps, the leaders of which alone can here be briefly alluded to. On the one side we have Buffon and Needham, the former postulating his 'organic molecules,' and the latter assuming the existence of a special 'vegetative force' which drew the molecules

together so as to form living things. On the other side we have the celebrated Abbé Lazzaro Spallanzani, who in 1777 published results counter to those announced by Needham in 1748, and obtained by methods so precise as to completely overthrow the convictions based upon the labors of his predecessor. Charging his flasks with organic infusions, he sealed their necks with the blow-pipe, subjected them in this condition to the heat of boiling water, and subsequently exposed them to temperatures favorable to the development of life. The infusions continued unchanged for months, and when the flasks were subsequently opened no trace of life was found.

Here I may forestall matters so far as to say that the success of Spallanzani's experiments depended wholly on the locality in which he worked. The air around him must have been free from the more obdurate infusorial germs, for otherwise the process he followed would, as was long afterwards proved by Wyman, have infallibly yielded life. But his refutation of the doctrine of spontaneous generation is not the less valid on this account. Nor is it in any way upset by the fact that others in repeating his experiments obtained life where he obtained none. Rather is the refutation strengthened by such differences. Given two experimenters equally skilful and equally careful, operating in different places on the same infusions, in the same way, and assuming the one to obtain life while the other fails to obtain it; then its well-established absence in the one case proves that some ingredient foreign to the infusion must be its cause in the other.

Spallanzani's sealed flasks contained but small quantities of air, and as oxygen was afterwards shown to be generally essential to life, it was thought that the absence of life observed by Spallanzani might have been due to the lack of this vitalising gas. To dissipate this doubt, Schulze in 1836 half filled a flask with distilled water to which animal and vegetable matters were added. First boiling his infusion to destroy whatever life it might contain, Schulze sucked daily into his flask air which had passed through a series of bulbs containing concentrated sulphuric acid, where all germs

of life suspended in the air were supposed to be destroyed. From May to August this process was continued without any development of infusorial life.

Here again the success of Schulze was due to his working in comparatively pure air, but even in such air his experiment is a very risky one. Germs will pass unwetted and unscathed through sulphuric acid unless the most special care is taken to detain them. I have repeatedly failed, by repeating Schulze's experiments, to obtain his results. Others have failed likewise. The air passes in bubbles through the bulbs, and to render the method secure, the passage of the air must be so slow as to cause the whole of its floating matter, even to the very core of each bubble, to touch the surrounding liquid. But if this precaution be observed, water will be found quite as effectual as sulphuric acid. By the aid of an air-pump, in a highly infective atmosphere I have thus drawn air for weeks without intermission, first through bulbs containing water, and afterwards through vessels containing organic infusions, without any appearance of life. The germs were not killed, but they were effectually intercepted, while the objection that the air has been injured by being brought into contact with strongly corrosive substances was avoided.

The brief paper of Schulze, published in Poggendorf's *Annalen* for 1836, was followed in 1837 by another short and pregnant communication by Schwann. Redi, as we have seen, traced the maggots of putrefying flesh to the eggs of flies. But he did not and he could not know the meaning of putrefaction itself. He had not the instrumental means to inform him that it also is a phenomenon attendant on the development of life. This was first proved in the paper now alluded to. Schwann placed flesh in a flask filled to one-third of its capacity with water, sterilised the flask by boiling, and then supplied it for months with calcined air. Throughout this time there appeared no mould, no infusoria, no putrefaction; the flesh remained unaltered, while the liquid continued as clear as it was immediately after boiling. Schwann then varied his experimental argument, with no alteration in the result. His final conclusion

was that putrefaction is due to decompositions of organic matter attendant on the multiplication therein of minute organisms. These organisms were derived not from the air, but from something contained in the air, which was destroyed by a sufficiently high temperature. There never was a more determined opponent of the doctrine of spontaneous generation than Schwann, though a strange attempt was made a year and a half ago to enlist him and others equally opposed to it on the side of the doctrine.

The physical character of the agent which produces putrefaction was further revealed by Helmholtz in 1843. By means of a membrane he separated a sterilised putrescible liquid from a putrefying one. The sterilised infusion remained perfectly intact. Hence it was not the liquid of the putrefying mass—for it could freely diffuse through the membrane—but something contained in the liquid, and which was stopped by the membrane, that caused the putrefaction. In 1854 Schroeder and Von Dusch struck into this inquiry, which was subsequently followed up by Schroeder alone. These able experimenters employed plugs of cotton-wool to filter the air supplied to their infusions. Fed with such air, in the great majority of cases the putrescible liquids remained perfectly sweet after boiling. Milk formed a conspicuous exception to the general rule. It putrefied after boiling, though supplied with carefully filtered air. The researches of Schroeder bring us up to the year 1859.

In that year a book was published which seemed to overturn some of the best established facts of previous investigators. Its title was *Hétérogénie*, and its author was F. A. Pouchet, Director of the Museum of Natural History at Rouen. Ardent, laborious, learned, full not only of scientific, but of metaphysical fervor, he threw his whole energy into the inquiry. Never did a subject require the exercise of the cold critical faculty more than this one—calm study in the unravelling of complex phenomena, care in the preparation of experiments, care in their execution, skilful variation of conditions, and incessant questioning of results until repetition had placed them beyond doubt or question. To a man

of Pouchet's temperament the subject was full of danger—danger not lessened by the theoretic bias with which he approached it. This is revealed by the opening words of his preface: 'Lorsque, par la méditation, il fut évident pour moi que la génération spontanée était encore l'un des moyens qu'emploie la nature pour la reproduction des êtres, je m'appliquai à découvrir par quels procédés on pouvait parvenir à en mettre les phénomènes en évidence.' It is needless to say that such a prepossession required a strong curb. Pouchet repeated the experiments of Schulze and Schwann with results diametrically opposed to theirs. He heaped experiment upon experiment and argument upon argument, spicing with the sarcasm of the advocate the logic of the man of science. In view of the multitudes required to produce the observed results, he ridiculed the assumption of atmospheric germs. This was one of his strongest points. 'Si les Proto-organismes que nous voyons pulluler partout et dans tout, avaient leurs germes disséminés dans l'atmosphère, dans la proportion mathématiquement indispensable à cet effet, l'air en serait totalement obscurci, car ils devraient s'y trouver beaucoup plus serrés que les globules d'eau qui forment nos nuages épais. Il n'y a pas là la moindre exagération.' Recurring to the subject he exclaims: 'L'air dans lequel nous vivons aurait presque la densité du fer.' There is often a virulent contagion in a confident tone, and this hardihood of argumentative assertion was sure to influence minds swayed not by knowledge, but by authority. Had Pouchet known that 'the blue ethereal sky' is formed of suspended particles, through which the sun freely shines, he would hardly have ventured upon this line of argument.

Pouchet's pursuit of this inquiry strengthened the conviction with which he began it, and landed him in downright credulity in the end. I do not question his ability as an observer, but the inquiry needed a disciplined experimenter. This latter implies not mere ability to look at things as Nature offers them to our inspection, but to force her to show herself under conditions prescribed by the experimenter himself. Here Pouchet lacked the necessary dis-

cipline. Yet the vigor of his onset raised clouds of doubt, which for a time obscured the whole field of inquiry. So difficult indeed did the subject seem, and so incapable of definite solution, that when Pasteur made known his intention to take it up his friends Biot and Dumas expressed their regret, earnestly exhorting him to set a definite and rigid limit to the time he purposed spending in this apparently unprofitable field.*

Schooled by his education as a chemist, and by special researches on the closely related question of fermentation, Pasteur took up this subject under particularly favorable conditions. His work and his culture had given strength and finish to his natural aptitudes. In 1862, accordingly, he published a paper 'On the Organised Corpuscles existing in the Atmosphere,' which must for ever remain classical. By the most ingenious devices he collected the floating particles of the air surrounding his laboratory in the Rue d'Ulm, and subjected them to microscopic examination. Many of them he found to be organised particles. Sowing them in sterilised infusions, he obtained abundant crops of microscopic organisms. By more refined methods he repeated and confirmed the experiments of Schwann, which had been contested by Pouchet, Montegazza, Joly, and Musset. He also confirmed the experiments of Schroeder and Von Dusch. He showed that the cause which communicated life to his infusions was not uniformly diffused through the air; that there were aerial interspaces which possessed no power to generate life. Standing on the Mer de Glace, near the Montanvert, he snipped off the ends of a number of hermetically sealed flasks containing organic infusions. One out of twenty of the flasks thus supplied with glacier air showed signs of life afterwards, while eight out of twenty of the same infusions, supplied with the air of the plains, became crowded with life. He took his flasks

* 'Je ne conseillerais à personne,' said Dumas to his already famous pupil, 'de rester trop longtemps dans ce sujet.'—*Annales de Chimie et de Physique*, 1862, vol. lxi. p. 22. Since that time the illustrious Perpetual Secretary of the Academy of Sciences has had good reason to revise this 'counsel.'

into the caves under the Observatory of Paris, and found the still air in these caves devoid of generative power. These and other experiments, carried out with a severity perfectly obvious to the instructed scientific reader, and accompanied by a logic equally severe, restored the conviction that, even in these lower reaches of the scales of being, life does not appear without the operation of antecedent life.

The main position of Pasteur, though often assailed, has never yet been shaken. It has, on the contrary, been strengthened by practical researches of the most momentous kind. He has applied the knowledge won from his inquiries to the preservation of wine and beer, to the manufacture of vinegar, to the staying of the plague which threatened utter destruction to the silk husbandry of France, and to the examination of other formidable diseases which assail the higher animals, including man. His relation to the improvements which Professor Lister has introduced into surgery, is shown by a letter quoted in his *Études sur la Bière*. Professor Lister there expressly thanks Pasteur for having given him the only principle which could have conducted the antiseptic system to a successful issue. The strictures regarding Pasteur's defects of reasoning, to which we have been lately accustomed, delivered with a tone of supercilious contempt, where reverent teachableness would have been the fitting state of mind, throw abundant light upon their author, but none upon Pasteur.

Redi, as we have seen, proved the maggots of putrefying flesh to be derived from the eggs of flies; Schwann proved putrefaction itself to be the concomitant of far lower forms of life than those dealt with by Redi. Our knowledge here, as elsewhere in connection with this subject, has been vastly extended by Professor Cohn, of Breslau. 'No putrefaction,' he says, 'can occur in a nitrogenous substance if its bacteria be destroyed and new ones prevented from entering it. Putrefaction begins as soon as bacteria, even in the smallest numbers, are admitted either accidentally or purposely. It progresses in direct proportion to the multiplication of the bacteria, it is retarded when they exhibit low vitality, and is stopped by all influ-

ences which either hinder their development or kill them. All bactericidal media are therefore antiseptic and disinfecting.* It was these organisms acting in wound and abscess which so frequently converted our hospitals into charnel-houses, and it is their destruction by the antiseptic system that now renders justifiable operations which no surgeon would have attempted a few years ago. The gain is immense—to the practising surgeon as well as to the patient practised upon. Contrast the anxiety of never feeling sure whether the most brilliant operation might not be rendered nugatory by the access of a few particles of unseen hospital dust, with the comfort derived from the knowledge that all power of mischief on the part of such dust has been surely and certainly annihilated. But the action of living contagia extends beyond the domain of the surgeon. The power of reproduction and indefinite self-multiplication which is characteristic of living things, coupled with the undeviating fact of contagia 'breeding true,' has given strength and consistency to a belief long entertained by penetrating minds that epidemic diseases generally are the concomitants of parasitic life. 'There begins to be faintly visible to us a vast and destructive laboratory of nature wherein the diseases which are most fatal to animal life, and the changes to which dead organic matter is passively liable, appear bound together by what must at least be called a very close analogy of causation.† According to this view, which, as I have said, is daily gaining converts, a contagious disease may be defined as a conflict between the person smitten by it and a specific organism which multiplies at his expense, appropriating his air and moisture, disintegrating his tissues, or poisoning him by the decompositions incident to its growth.

* In his last excellent memoir Cohn expresses himself thus: 'Wer noch heut die Fäulniss von einer spontanen Dissociation der Proteinmolecule, oder von einem unorganisirten Ferment ableitet, oder gar aus "Stickstoffspaltung" die Balken zur Stütze seiner Fäulnisstheorie zu zimmern versucht, hat zuerst den Satz "keine Fäulniss ohne Bacterium Termo" zu widerlegen.'

† Report of the Medical Officer of the Privy Council, 1874, p. 5.

During the ten years extending from 1859 to 1869, researches on radiant heat in its relations to the gaseous form of matter occupied my continual attention. When air was experimented on, I had to cleanse it effectually of floating matter, and while doing so I was surprised to notice that, at the ordinary rate of transfer, such matter passed freely through alkalis, acids, alcohols, and ethers. The eye being kept sensitive by darkness, a concentrated beam of light was found to be a most searching test for suspended matter both in water and in air—a test indeed indefinitely more searching and severe than that furnished by the most powerful microscope. With the aid of such a beam I examined air filtered by cotton-wool, air long kept free from agitation, so as to allow the floating matter to subside, calcined air, and air filtered by the deeper cells of the human lungs. In all cases the correspondence between my experiments and those of Schroeder, Pasteur, and Lister, in regard to spontaneous generation was perfect. The air which they found inoperative was proved by the luminous beam to be optically pure and therefore germless. Having worked at the subject both by experiment and reflection, on Friday evening, the 21st of January, 1870, I brought it before the members of the Royal Institution. Two or three months subsequently, for sufficient practical reasons, I ventured to direct public attention to the subject in a letter to the *Times*. Such was my first contact with this important question.

This letter, I believe, gave occasion for the first public utterance of Dr. Bastian in relation to this question. He did me the honor to inform me, as others had informed Pasteur, that the subject 'pertains to the biologist and physician.' He expressed 'amazement' at my reasoning, and warned me that before what I had done could be undone 'much irreparable mischief might be occasioned.' With far less preliminary experience to guide and warn him, Dr. Bastian was far bolder than Pouchet in his experiments, and far more adventurous in his conclusions. With organic infusions he obtained the results of his celebrated predecessor, but he did far more—the atoms and molecules of inorganic liquids passing under his manipulation into

those more 'complex chemical compounds,' which we dignify by calling them 'living organisms.'* For five years, or thereabouts, Dr. Bastian ploughed this field without impediment from me, and, now that one can overlook the work, I am bound in truth to say that very wonderful ploughing it has been. As regards the public who take an interest in such things, and apparently also as regards a large portion of the medical profession, he certainly succeeded in restoring the subject to a state of uncertainty similar to that which followed the publication of Pouchet's volume in 1859.

It is desirable that this uncertainty should be removed from the public mind, and doubly desirable on practical grounds that it should be removed from the minds of medical men. In the present article, therefore, I propose discussing this question face to face with some eminent and fair-minded member of the medical profession who, as regards spontaneous generation, entertains views adverse to mine. Such a one it would be easy to name; but it is [perhaps better to rest in the impersonal. I shall therefore simply call my proposed co-inquirer my friend. With him at my side I shall endeavor, to the best of my ability, so to conduct this discussion that he who runs may read and that he who reads may understand.

Let us begin at the beginning. I ask my friend to step into the laboratory of the Royal Institution, where I place before him a basin of thin turnip slices barely covered with distilled water kept at a temperature of 120° Fahr. After digesting the turnip for four or five hours we pour off the liquid, boil it, filter it, and obtain an infusion as clear as filtered drinking water. We cool the infusion, test its specific gravity, and find it to be 1006 or higher—water being 1000. A number of small clean empty flasks, with a long, tapering neck, are before us. One of them is slightly warmed with a spirit-lamp, and its open end is then dipped into the turnip infusion. The warmed

* 'It is further held that bacteria or allied organisms are prone to be engendered as correlative products, coming into existence in the several fermentations, just as independently as other less complex chemical compounds.'—Bastian, *Trans. of Pathological Society*, vol. xxvi. p. 258.

glass is afterwards chilled, the air within the flask cools, contracts, and is followed in its contraction by the infusion. Thus we get a small quantity of liquid into the flask. We now heat this liquid carefully. Steam is produced, which issues from the open neck, carrying the air of the flask along with it. After a few seconds' ebullition, the open neck is again plunged into the infusion. The steam within the flask condenses, the liquid enters to supply its place, and in this way we fill our little flask to about four-fifths of its volume. This description is typical; we may thus fill a thousand flasks with a thousand different infusions.

I now ask my friend to notice a trough made of sheet copper, with two rows of handy little Bunsen burners underneath it. This trough, or bath, is nearly filled with oil; a piece of thin plank constitutes a kind of lid for the oil-bath. The wood is perforated with circular apertures wide enough to allow our small flask to pass through and plunge itself in the oil, which has been heated, say, to 250° Fahr. Clasped all round by the hot liquid, the infusion in the flask rises to its boiling point, which is not sensibly over 212° Fahr. Steam issues from the open neck of the flask, and the boiling is continued for five minutes. With a pair of small brass tongs, an assistant now seizes the neck near its junction with the flask, and partially lifts the latter out of the oil. The steam does not cease to issue, but its violence is abated. With a second pair of tongs held in one hand, the neck of the flask is seized close to its open end, while with the other hand a Bunsen's flame or an ordinary spirit flame is brought under the middle of the neck. The glass reddens, whitens, softens, and as it is gently drawn out the neck diminishes in diameter, until the canal is completely blocked up. The tongs with the fragment of severed neck being withdrawn, the flask, with its contents diminished by evaporation, is lifted from the oil-bath perfectly sealed hermetically.

Sixty such flasks filled, boiled, and sealed in the manner described, and containing strong infusions of beef, mutton, turnip, and cucumber, are carefully packed in sawdust and transported to the Alps. Thither, to an elevation of about 7000 feet above the sea, I invite

my co-inquirer to accompany me. It is the month of July, and the weather is favorable to putrefaction. We open our box at the Bel-Alp, and count out fifty-four flasks, with their liquids as clear as filtered drinking water. In six flasks, however, the infusion is found muddy. We closely examine these, and discover that every one of them has had its fragile end broken off in the transit from London. Air has entered the flasks, and the observed muddiness is the result. My colleague knows as well as I do what this means. Examined with a pocket-lens, or even with a microscope of insufficient power, nothing is seen in the muddy liquid; but regarded with a magnifying power of a thousand diameters or so, what an astonishing appearance does it present! Leeuwenhoek estimated the population of a single drop of stagnant water at 500,000,000: probably the population of a drop of our turbid infusion would be this many times multiplied. The field of the microscope is crowded with organisms, some wabbling slowly, others shooting rapidly across the microscopic field. They dart hither and thither like a rain of minute projectiles; they pirouette and spin so quickly round, that the retention of the retinal impression transforms the little living rod into a twirling wheel. And yet the most celebrated naturalists tell us that they are vegetables. From the rod-like shape which they so frequently assume, these organisms are called bacteria—a term, be it here remarked, which covers organisms of very diverse kinds.

Has this multitudinous life been spontaneously generated in these six flasks, or is it the progeny of living germinal matter carried into the flasks by the entering air? If the infusions have a self-generative power, how are the sterility and consequent clearness of the fifty-four uninjured flasks to be accounted for? My colleague may urge—and fairly urge—that the assumption of germinal matter is by no means necessary; that the air itself may be the one thing needed to wake up the dormant infusions. We will examine this point immediately. But meanwhile I would remind my friend that I am working on the exact lines laid down by our most conspicuous heterogenist. He distinctly affirms that

the withdrawal of the atmospheric pressure above the infusion favors the production of organisms; and he accounts for their absence in tins of preserved meat, fruit, and vegetables, by the hypothesis that fermentation *has* begun in such tins, that gases *have* been generated, the pressure of which has stifled the incipient life and stopped its further development.* This is Dr. Bastian's theory of preserved meats. Its author has never, to my knowledge, pierced a tin of preserved meat, fruit, or vegetable under water with the view of testing its truth. Had he done so, he would have found it erroneous. In well-preserved tins I have invariably found, not an outrush of gas, but an inrush of water, when the tin was perforated. I have noticed this recently in tins which have lain perfectly good for sixty-three years, in the Royal Institution. Modern tins, subjected to the same test, yielded the same result. From time to time, moreover, during the last two years I have placed glass tubes containing clear infusions of turnip, hay, beef, and mutton, in iron bottles, and subjected them to air-pressures varying from ten to twenty-seven atmospheres—pressures, it is needless to say, far more than sufficient to tear a preserved meat tin to shreds. After ten days these infusions were taken from their bottles rotten with putrefaction and teeming with life. Thus collapses an hypothesis which had no rational foundation, and which could never have seen the light had the slightest attempt been made to verify it.

Our fifty-four vacuous and pellucid flasks also declare against this heterogenist. We expose them to a warm Alpine sun by day, and at night we suspend them in a warm kitchen. Four of them have been accidentally broken; but at the end of a month we find the fifty remaining ones as clear as at the commencement. There is no sign of putrefaction or of life in any of them. We divide these flasks into two groups of twenty-three and twenty-seven respectively (an accident of counting rendered the division uneven). The question now is whether the admission of air can liberate any generative energy in the infusions. Our next experiment will answer

this question and something more. We carry the flasks to a hayloft, and there, with a pair of steel pliers, snip off the sealed ends of the group of three-and-twenty. Each snipping off is of course followed by an inrush of air. We now carry our twenty-seven flasks, our pliers, and a spirit-lamp, to a ledge overlooking the Aletsch glacier, about 200 feet above the hayloft, from which ledge the mountain falls almost precipitously to the north-east for about a thousand feet. A gentle wind blows towards us from the north-east—that is, across the crests and snow-fields of the Oberland mountains. We are therefore bathed by air which must have been for a good while out of practical contact with either animal or vegetable life. I stand carefully to leeward of the flasks, for no dust or particle from my clothes or body must be blown towards them. An assistant ignites the spirit lamp, into the flame of which I plunge the pliers, thereby destroying all attached germs or organisms. Then I snip off the sealed end of the flask. Prior to every snipping the same process is gone through, no flask being opened without the previous cleansing of the pliers by the flame. In this way we charge our seven-and-twenty flasks with clean vivifying mountain air.

We place the fifty flasks, with their necks open, over a kitchen stove, in a temperature varying from 50° to 90° Fahr., and in three days find twenty-one out of the twenty-three flasks opened on the hayloft invaded by organisms—two only of the group remaining free from them. After three weeks' exposure to precisely the same conditions, not one of the twenty-seven flasks opened in free air had given way. No germ from the kitchen air had ascended the narrow necks, the flasks being shaped to produce this result. They are still in the Alps, as clear, I doubt not, and as free from life as they were when sent off from London.*

What is my colleague's conclusion from the experiment before us? Twenty-seven putrescible infusions, first in vacuo, and afterwards supplied with the most invigorating air, have shown no sign of putrefaction or of life. And as

* *Beginnings of Life*, vol. i. p. 418.

* An actual experiment made three months ago at the Bel Alp is here described

to the others I almost shrink from asking him whether the hayloft has rendered them spontaneously generative. Is not the inference here imperative that it is not the air of the loft—which is connected through a constantly open door with the general atmosphere—but something contained in the air, that has produced the effects observed? What is this something? A sunbeam glinting through a chink in the roof or wall, and traversing the air of the loft, would show it to be laden with suspended dust particles. Indeed the dust is distinctly visible in the diffused daylight. Can it have been the origin of the observed life? If so, are we not bound by all antecedent experience to regard these fruitful particles as the germs of the life observed?

The name of Baron Liebig has been constantly mixed up with these discussions. 'We have,' it is said, 'his authority for assuming that dead decaying matter can produce fermentation.' True, but with Liebig, fermentation was by no means synonymous with *life*. It will be observed by the careful reader of Dr. Bastian's works, that whenever their author refers to this alleged power of decaying matter, he invariably couples with it the vague term 'fermentation,' thus softening the shock of the hypothesis which he insinuates rather than asserts. But our present intention is to brush all vagueness aside. We therefore ask: 'Does the *life* of our flasks proceed from dead particles?' If my co-inquirer should reply 'Yes,' then I would ask him, 'What warrant does Nature offer for such an assumption? Where, amid the multitude of vital phenomena in which her operations have been clearly traced, is the slightest countenance given to the notion that the sowing of dead particles can produce a living crop?' With regard to Baron Liebig, had he studied the revelations of the microscope in relation to these questions, a mind so penetrating could never have missed the significance of the facts revealed. He, however, neglected the microscope, and fell into error—but not into error so gross as that in support of which his authority has been invoked. Were he now alive, he would, I doubt not, repudiate the use often made of his name—Liebig's view of fermentation was at least a scientific one, founded on profound con-

ceptions of molecular instability. But this view by no means involves the notion that the planting of dead particles—'Stickstoffsplittern' as Cohn contemptuously calls them—is followed by the sprouting of infusorial life.

Let us now return to London and fix our attention on the dust of *its* air. Suppose a room in which the housemaid has finished her work to be completely closed, with the exception of an aperture in a shutter through which a sunbeam enters and crosses the room. The floating dust reveals the track of the light. Let a lens be placed in the aperture to condense the beam. Its parallel rays are now converged to a cone, at the apex of which the dust is raised to almost unbroken whiteness by the intensity of its illumination. Defended from all glare, the eye is peculiarly sensitive to this scattered light. The floating dust of London rooms is organic, and may be burned without leaving visible residue. The action of a spirit-lamp flame upon the floating matter has been elsewhere thus described:—

In a cylindrical beam which strongly illuminated the dust of our laboratory, I placed an ignited spirit-lamp. Mingling with the flame, and round its rim, were seen curious wreaths of darkness resembling an intensely black smoke. On placing the flame at some distance below the beam, the same dark masses stormed upwards. They were blacker than the blackest smoke ever seen issuing from the funnel of a steamer; and their resemblance to smoke was so perfect as to prompt the conclusion that the apparently pure flame of the alcohol-lamp required but a beam of sufficient intensity to reveal its clouds of liberated carbon.

But is the blackness smoke? This question presented itself in a moment, and was thus answered: A red-hot poker was placed underneath the beam; from it the black wreaths also ascended. A large hydrogen flame, which emits no smoke, was next employed, and it also produced with augmented copiousness those whirling masses of darkness. Smoke being out of the question, what is the blackness? It is simply that of stellar space; that is to say, blackness resulting from the absence from the track of the beam of all matter competent to scatter its light. When the flame was placed below the beam, the floating matter was destroyed *in situ*; and the heated air, freed from this matter, rose into the beam, jostled aside the illuminated particles, and substituted for their light the darkness due to its own perfect transparency. Nothing could more forcibly illustrate the invisibility of the agent which renders all things

visible. The beam crossed, unseen, the black chasm formed by the transparent air, while, at both sides of the gap, the thick-strewn particles shone out like a luminous solid under the powerful illumination.*

Supposing an infusion intrinsically barren, but readily susceptible of putrefaction when exposed to common air, to be brought into contact with this unilluminable air, what would be the result? It would never putrefy. It might, however, be urged that the air is spoiled by its violent calcination. Oxygen passed through a spirit-lamp flame is, it may be thought, no longer the oxygen suitable for the development and maintenance of life. We have an easy escape from this difficulty, which is based, however, upon the unproved assumption that the air has been affected by the flame. Let a condensed beam be sent through a large flask or bolthead containing common air. The track of the beam is seen within the flask—the dust revealing the light, and the light revealing the dust. Cork the flask, stuff its neck with cotton-wool, or simply turn it mouth downwards and leave it undisturbed for a day or two. Examined afterwards with the luminous beam, no track is visible; the light passes through the flask as through a vacuum. The floating matter has abolished itself, being now attached to the interior surface of the flask. Were it our object, as it will be subsequently, to effectually detain the dirt, we might coat that surface with some sticky substance. Here, then, without 'torturing' the air in any way, we have found a means of ridding it or rather of enabling it to rid itself of floating matter.

We have now to devise a means of testing the action of such spontaneously purified air upon putrescible infusions. Wooden chambers or cases are accordingly constructed having glass fronts, side-windows and back-doors. Through the bottoms of the chambers test-tubes pass air-tight; their open ends for about one-fifth of the length of the tubes, being within the chambers. Provision is made for a free connection through sinuous channels between the inner and the outer air. Through such channels, though open, no dust will reach the cham-

ber. The top of each chamber is perforated by a circular hole two inches in diameter and closed air-tight by a sheet of india-rubber. This is pierced in the middle by a pin, and through the pin-hole is pushed the shank of a long pipette, ending above in a small funnel. The shank also passes through a stuffing-box of cotton-wool moistened with glycerine; so that, tightly clasped by the rubber and wool, the pipette is not likely in its motions up and down to carry any dust into the chamber.

The chamber is carefully closed and permitted to remain quiet for two or three days. Examined at the beginning by a beam sent through its windows, the air is found laden with floating matter, which in three days has wholly disappeared. To prevent its ever rising again into the chambers the internal surface is coated with glycerine. The fresh but putrescible liquid is introduced into the six tubes in succession by means of the pipette. Permitted to remain without further precaution, every one of the tubes would putrefy and fill itself with life. The liquid has been in contact with dust-laden air by which it has been infected, and the infection must be destroyed. This is done by plunging the six tubes into a bath of heated oil and boiling the infusion. The time requisite to destroy the infection depends wholly upon its nature. 'Two minutes' boiling suffices to destroy some contagia, whereas two hundred minutes' boiling fails to destroy others. After the infusion has been sterilised, the oil-bath is withdrawn, and the liquid, whose putrescibility has been in no way affected by the boiling, is abandoned to the air of the chamber.

With such chambers I tested, in the autumn and winter of 1875-6, infusions of the most various kinds, embracing natural animal liquids, the flesh and viscera of domestic animals, game, fish, and vegetables. More than fifty moteless chambers, each with its series of infusions, were tested, many of them repeatedly. There was no shade of uncertainty in any of the results. In every instance we had, within the chamber, perfect limpidity and sweetness, which in some cases lasted for more than a year—without the chamber, with the same infusion, putridity and its characteristic smells

* *Fragments of Science*, 5th ed. pp. 128, 129.

In no instance was the least countenance lent to the notion that an infusion deprived by heat of its inherent life, and placed in contact with air cleansed of its visibly suspended matter, has any power whatever to generate life anew.

Remembering then the number and variety of the infusions employed, and the strictness of our adherence to the rules of preparation laid down by the heterogenists themselves; remembering that we have operated upon the very substances recommended by them as capable of furnishing even in untrained hands easy and decisive proofs of spontaneous generation, and that we have added to their substances many others of our own—if this pretended generative power were a reality, surely it must have manifested itself somewhere. Speaking roundly, I should say that at least five hundred chances have been given to it, but it has nowhere appeared. The argument is now to be closed and clenched by an experiment which will remove every residue of doubt as to the ability of the infusions to sustain life. We open the back doors of our sealed chambers, and permit the common air with its floating particles to have access to our tubes. For three months they have remained pellucid and sweet—flesh, fish, and vegetable extracts purer than ever cook manufactured. Three days' exposure to the dusty air suffices to render them muddy, fetid, and swarming with infusorial life. The liquids are thus proved, one and all, ready for putrefaction when the contaminating agent is applied. I invite my colleague to reflect on these facts. How will he account for the absolute immunity of a liquid exposed for months in a warm room to optically pure air, and its infallible putrefaction in a few days when exposed to dust-laden air? He must, I submit, bow to the conclusion that the dust-particles are the cause of putrefactive life. And unless he accepts the hypothesis that these particles, being dead in the air, are, in the liquid, miraculously kindled into living things, he must conclude that the life we have observed springs from germs or organisms diffused through the atmosphere.

The experiments with hermetically sealed flasks have reached the number of 940. A sample group of 130 of them

were laid before the Royal Society on the 13th of January, 1876. They were utterly free from life, having been completely sterilised by three minutes' boiling. I took special care that the temperatures to which the flasks were exposed should include those previously alleged to be efficient. I copied indeed accurately the conditions laid down by our most conspicuous heterogenist, but I failed to corroborate him. He then laid stress on the question of warmth, suddenly adding thirty degrees to the temperatures with which both he and I had previously worked. Waiving all argument or protest against the caprice thus manifested, I met this new requirement also. The sealed tubes, which had proved barren in the Royal Institution, were suspended in perforated boxes, and placed under the supervision of an intelligent assistant in the Turkish Bath in Jermyn Street. From two to six days had been allowed for the generation of organisms in hermetically sealed tubes. Mine remained in the washing-room of the bath for nine days. Thermometers placed in the boxes, and read off twice or three times a day, showed the temperature to vary from a minimum of 101° to a maximum of 112° Fahr. At the end of nine days the infusions were as clear as at the beginning. They were then removed to a warmer position. A temperature of 115° had been mentioned as particularly favorable to spontaneous generation. For fourteen days the temperatures of the Turkish Bath hovered about this point, falling once as low as 106° , reaching 116° on three occasions, 118° on one, and 119° on two. The result was quite the same as that just recorded. The higher temperatures proved perfectly incompetent to develop life.

Taking the actual experiment we have made as a basis of calculation, if our 940 flasks were opened on the hayloft of the Bel Alp 858 of them would become filled with organisms. The escape of the remaining 82 strengthens our case against the heterogenists, proving as it does conclusively that not in the air, nor in the infusions, nor in anything continuous diffused through the air, but in *discrete particles* nourished by the infusions, we are to seek the cause of life. Our experiment proves these particles to be in some cases so far apart on the hayloft

as to permit 10 per cent. of our flasks to take in air without contracting contamination. A quarter of a century ago Pasteur proved the cause of 'so-called spontaneous generation' to be *discontinuous*. I have already referred to his observation that 12 out of 20 flasks opened on the plains escaped infection, while 19 out of 20 flasks opened on the Mer de Glace escaped. Our own experiment at the Bel Alp is a more emphatic instance of the same kind, 90 per cent. of the flasks opened in the hayloft being smitten, while not one of those opened on the free mountain ledge was attacked. The power of the air as regards putrefactive infection is incessantly changing through natural causes, and we are able to alter it at will. Of a number of flasks opened in 1876 in the laboratory of the Royal Institution, 42 per cent. were smitten, while 58 per cent. escaped. In 1877 the proportion in the same laboratory was 68 per cent. smitten to 32 intact. The greater mortality, so to speak, of the infusions in 1877 was due to the presence of hay which diffused its germinal dust in the laboratory air, causing it to approximate as regards infective virulence to the air of the Alpine loft. I would ask my friend to bring his scientific penetration to bear upon all the foregoing facts. They do not prove spontaneous generation to be 'impossible.' My assertions, however, relate not to 'possibilities,' but to *proofs*, and the experiments just described do most distinctly prove the evidence on which the heterogenist relies to be written on waste paper.

My friend will not, I am persuaded, dispute these results; but he may be disposed to urge that other able and honorable men working at the same subject have arrived at conclusions different from mine. Most freely granted, but let me here recur to the remarks already made in speaking of the experiments of Spallanzani, to the effect that the failure of others to confirm his results by no means upsets their evidence. To fix the ideas, let us suppose that my colleague comes to the laboratory of the Royal Institution, repeats there my experiments, and obtains confirmatory results; and that he then goes to University or King's College, where, operating with the same infusions, he obtains con-

tradictory results. Will he be disposed to conclude that the selfsame substance is barren in Albemarle Street and fruitful in Gower Street or the Strand? His Alpine experience has already made known to him the literally infinite differences existing between different samples of air as regards their capacity for putrefactive infection. And, possessing this knowledge, will he not substitute for the adventurous conclusion that an organic infusion is barren at one place and spontaneously generative at another, the more rational and obvious one that the air of the two localities which has had access to the infusion is infective in different degrees?

As regards workmanship, moreover, he will not fail to bear in mind that *fruitfulness* may be due to errors of manipulation, while *barrenness* involves the presumption of correct experiment. It is only the careful worker that can secure the latter, while it is open to every novice to obtain the former. Barrenness is the result at which the conscientious experimenter, whatever his theoretic convictions may be, ought to aim, omitting no pains to secure it, and resorting only when there is no escape from it to the conclusion that the life observed comes from no source which correct experiment could neutralise or avoid. Let us again take a definite case. Supposing my colleague to operate with the same apparatus on 100 infusions—or rather on 100 samples of the same infusion—and that 50 of them proved fruitful and 50 barren. Are we to say that the evidence for and against heterogeny is equally balanced? There are some who would not only say this, but who would treasure up the 50 fruitful flasks as 'positive' results, and lower the evidential value of the 50 barren flasks by labelling them 'negative' results. This, as shown by Dr. William Roberts, is an exact inversion of the true order of the terms positive and negative.* Not such, I trust, would be the course pursued by my friend. As regards the 50 fruitful flasks he would, I doubt not, repeat the experiment with redoubled care and scrutiny, and, not by one repetition only, but by many, as-

* See his truly philosophical remarks on this head in the *British Medical Journal*, 1876, p. 282.

sure himself that he had not fallen into error. Such faithful scrutiny fully carried out would infallibly lead him to the conclusion that here, as in all other cases, the evidence in favor of spontaneous generation crumbles in the grasp of the competent inquirer.

The botanist knows that different seeds possess different powers of resistance to heat.* Some are killed by a momentary exposure to the boiling temperature, while others withstand it for several hours. Most of our ordinary seeds are rapidly killed, while Pouchet made known to the Paris Academy of Sciences in 1866 that certain seeds, which had been transported in fleeces of wool from Brazil, germinated after four hours' boiling. The germs of the air vary as much among themselves as the seeds of the botanist. In some localities the diffused germs are so tender that boiling for five minutes, or even less, would be sure to destroy them all; in other localities the diffused germs are so obstinate, that many hours' boiling would be requisite to deprive them of their power of germination. The absence or presence of a truss of desiccated hay would produce differences as great as those here described. The greatest endurance that I have ever observed—and I believe it is the greatest on record—was a case of survival after eight hours' boiling. As regards their power of resisting heat, the infusorial germs of our atmosphere might be classified under the following and intermediate heads:—Killed in five minutes; not killed in five minutes but killed in fifteen; not killed in fifteen minutes but killed in thirty; not killed in thirty minutes but killed in an hour; not killed in an hour but killed in two hours; not killed in two but killed in three hours; not killed in three but killed in four hours. I have had several cases of survival after four and five hours' boiling, some survivals after six, and one after eight hours' boiling. Thus far has experiment actually reached, but there is no valid warrant for fixing

upon even eight hours as the extreme limit of vital resistance. Probably more extended researches (though mine have been very extensive) would reveal germs more obstinate still. It is also certain that we might begin earlier, and find germs which are destroyed by a temperature far below that of boiling water. In the presence of such facts, to speak of a death-point of bacteria and their germs would be mere nonsense—but of this more anon.

We have now to test one of the principal foundations of the doctrine of spontaneous generation as formulated in this country. With this view, I place before my friend and co-inquirer two liquids which have been kept for six months in one of our sealed chambers, exposed to optically pure air. The one is a mineral solution containing in proper proportions all the substances which enter into the composition of bacteria, the other is an infusion of turnip—it might be any one of a hundred other infusions, animal or vegetable. Both liquids are as clear as distilled water, and there is no trace of life in either of them. They are, in fact, completely sterilised. A mutton-chop, over which a little water has been poured to keep its juices from drying up, has lain for three days upon a plate in our warm room. It smells offensively. Placing a drop of the fetid mutton-juice under a microscope, it is found swarming with the bacteria which live by putrefaction, and without which no putrefaction can occur. With a speck of the swarming liquid I inoculate the clear mineral solution and the clear turnip infusion, as a surgeon might inoculate an infant with vaccine lymph. In four-and-twenty hours the transparent liquids have become turbid throughout, and instead of being barren as at first they are teeming with life. The experiment may be repeated a thousand times with the same invariable result. To the naked eye the liquids at the beginning were alike, being both equally transparent—to the naked eye they are alike at the end, being both equally muddy. Instead of putrid mutton-juice we might take as a source of infection any one of a hundred other putrid liquids, animal or vegetable. So long as the liquid contains the living bacteria a speck of it communicated to the clear mineral solu-

* I am indebted to Dr. Thistleton Dyer for various illustrations of such differences. It is, however, surprising that a subject of such high scientific importance should not have been more thoroughly explored. Here the scoundrels who deal in killed seeds might be able to add to our knowledge.

tion, or to the clear turnip infusion, produces in twenty-four hours the effect that we have described.

We now vary the experiment thus:—Opening the back-door of another closed chamber which has contained for months the pure mineral solution and the pure turnip infusion side by side, I drop into each of them a small pinch of laboratory dust. The effect here is tardier than when the speck of putrid liquid was employed. In three days, however, after its infection with the dust, the turnip infusion is muddy, and swarming as before with bacteria. But what about the mineral solution which, in our first experiment, behaved in a manner undistinguishable from the turnip-juice? At the end of three days there is not a bacterium to be found in it. At the end of three weeks it is equally innocent of bacterial life. We may repeat the experiment with the solution and the infusion a hundred times with the same invariable result. Always in the case of the latter the sowing of the atmospheric dust yields a crop of bacteria—never in the former does the dry germinal matter kindle into active life.* What is the inference which the reflecting mind must draw from this experiment? Is it not as clear as day that while both liquids are able to feed the bacteria and to enable them to increase and multiply, *after they have been once fully developed*, only one of the liquids is able to develop into active bacteria the germinal dust of the air?

I invite my friend to reflect upon this conclusion; he will, I think, see that there is no escape from it. He may, if he prefers it, hold the opinion, which I consider erroneous, that bacteria exist in the air, not as germs but as desiccated organisms. The inference remains, that while the one liquid is able to force the passage from the inactive to the active state, the other is not.

But this is not at all the inference which has been drawn from experiments with the mineral solution. Seeing its ability to nourish bacteria when once inoculated with the living active organism,

* This is the deportment of the mineral solution as described by others. My own experiments would lead me to say that the development of the bacteria, though exceedingly slow and difficult, is not impossible.

and observing that no bacteria appeared in the solution after long exposure to the air, the inference was drawn that *neither bacteria nor their germs existed in the air*. Throughout Germany the ablest literature of the subject, even that opposed to heterogeny, is infected with this error; while heterogenists at home and abroad have based upon it a triumphant demonstration of their doctrine. It is proved, they say, by the deportment of the mineral solution that neither bacteria nor their germs exist in the air; hence, if, on exposing a thoroughly sterilised turnip infusion to the air, bacteria appear, they must of necessity have been spontaneously generated. In the words of Dr. Bastian, uttered not in a popular book, but in the *Proceedings of the Royal Society*,* with reference to this very experiment: 'We can only infer that whilst the boiled saline solution is quite incapable of engendering bacteria, such organisms are able to arise *de novo* in the boiled organic infusion.' I would ask my eminent colleague what he thinks of this reasoning now? The *datum* is—'A mineral solution exposed to common air does not develop bacteria;' the *inference* is—'Therefore if a turnip infusion similarly exposed develop bacteria they must be spontaneously generated.' The inference, on the face of it, is an unwarranted one. But while as matter of logic it is inconclusive, as matter of fact it is chimerical. London air is as surely charged with the germs of bacteria as London chimneys are with smoke. The inference just referred to is completely disposed of by the simple question: 'Why, when your sterilised organic infusion is exposed to optically pure air, should this generation of life *de novo* utterly cease? Why should I be able to preserve my turnip-juice side by side with your saline solution for the three hundred and sixty-five days of the year, in free connection with the general atmosphere, on the sole condition that the portion of that atmosphere in contact with the juice shall be visibly free from floating dust, while three days' exposure to that dust fills it with bacteria?' Am I over-sanguine in hoping that as regards the argument here set forth he who runs may read, and he who reads

* Vol. xxi. p. 130.

may understand? Let me add, however, that while exposing the fallacy of the inferences drawn from it, I regard the observation that the boiled saline solution can sustain the developed organisms, while it cannot develop them from the dry germinal matter of the air, as an important addition to our knowledge. We are indebted for it to Dr. Burdon Sanderson, who soon saw that his first interpretation of it went too far, and who, in a communication recently presented to the Royal Society, abandons the interpretation altogether.

We now proceed to the calm and thorough consideration of another subject, more important if possible than the foregoing one, but like it somewhat difficult to seize by reason of the very opulence of the phraseology, logical and rhetorical, in which it has been set forth. The subject now to be considered relates to what has been called 'the death-point of bacteria.' Those who happen to be acquainted with the modern English literature of the question will remember how challenge after challenge has been issued to panspermatisms in general, and to one or two home workers in particular, to come to close quarters on this cardinal point. It is obviously the stronghold of the English heterogenist. 'Water,' he says, 'is boiling merrily over a fire when some luckless person upsets the vessel so that the heated fluid exercises its scathing influence upon an uncovered portion of the body—hand, arm, or face. Here at all events there is no room for doubt. Boiling water unquestionably exercises a most pernicious and rapidly destructive effect upon the living matter of which we are composed.'* And lest it should be supposed that it is the high organisation which, in this case, renders the body susceptible to heat, he refers to the action of boiling water on the hen's egg to dissipate the notion. 'The conclusion,' he says, 'would seem to force itself upon us that there is something intrinsically deleterious in the action of boiling water upon living matter—whether this matter be of high or of low organisation.'† Again, at another place: 'It has been shown that the briefest exposure to the influence of boiling water is destructive of all living matter.'‡ Throughout his

prolonged disquisitions on this subject, Dr. Bastian makes special kinds of living matter do duty for *all* kinds. To invalidate the foregoing statements it is only necessary to say that eight years before they were made it had been known to the wool-staplers of Elbœuf, and Pouchet had published the fact in the *Comptes-Rendus of the Paris Academy of Sciences*,* that the desiccated seeds of the Brazilian plant *medicago* survived fully four hours' boiling. Pouchet himself boiled the seeds, and found some of them swollen and disintegrated, while others remained hard and unswollen. Sown in the same earth, the latter germinated while the former did not. So much for the heterogenist's mistake regarding ordinary seeds; we must now examine whether no error underlies his experiments and his reasonings as to 'the death-point of bacteria.'

The experiments already recorded plainly show that there is a marked difference between the dry bacterial matter of the air, and the wet, soft, and active bacteria of putrefying organic liquids. The one can be luxuriantly bred in the saline solution, the others refuse to be born there, while both of them are copiously developed in a sterilised turnip infusion. Inferences, as we have already seen, founded on the deportment of the one liquid cannot with the warrant of scientific logic be extended to the other. But this is exactly what the heterogenist has done, thus repeating as regards the death-point of bacteria the error into which he fell concerning the germs of the air. Let us boil our muddy mineral solution with its swarming bacteria for five minutes. In the soft succulent condition in which they exist in the solution not one of them escapes destruction. The same is true of the turnip infusion if it be inoculated with the living bacteria only—the aerial dust being carefully excluded. In both cases the dead organisms sink to the bottom of the liquid, and without re-inoculation no fresh organisms will arise. But the case is entirely different when we inoculate our turnip infusion with the desiccated germinal matter afloat in the air.

The 'death-point' of bacteria is the maximum temperature at which they can live, or the minimum temperature at

* Bastian, *Evolution*, p. 133.

† *Ibid.* p. 135. ‡ *Ibid.* p. 46.

* Vol. lxiii. p. 939.

which they cease to live. If, for example, they survive a temperature of 140° , and do not survive a temperature of 150° , the death-point lies somewhere between these two temperatures. Vaccine lymph, for example, is proved by Messrs. Braidwood and Vacher to be deprived of its power of infection by brief exposure to a temperature between 140° and 150° Fahr. This may be regarded as the death-point of the lymph, or rather of the particles diffused in the lymph, which constitute the real contagium. If no time, however, be named for the application of the heat, the term 'death-point' is a vague one. An infusion, for example, which will resist five hours' continuous exposure to the boiling temperature, will succumb to five days' exposure to a temperature 50° below that of boiling. The fully developed soft bacteria of putrefying liquids are not only killed by five minutes' boiling, but by less than a single minute's boiling—indeed, they are slain at about the same temperature as the vaccine. The same is true of the plastic, active bacteria of the turnip infusion.* But, instead of choosing a putrefying liquid for inoculation, let us prepare and employ our inoculating substance in the following simple way:—Let a small wisp of hay, desiccated by age, be washed in a glass of water, and let a perfectly sterilised turnip infusion be inoculated with the washing liquid. After three hours' continuous boiling the infusion thus infected will often develop luxuriant bacterial life. Precisely the same occurs if a turnip infusion be prepared in an atmosphere well charged with desiccated hay-germs. The infusion in this case infects itself without special inoculation, and its subsequent resistance to sterilisation is often very great. On the 1st of March last I purposely infected the air of our laboratory with the germinal dust of a sapless kind of hay mown in 1875. Ten groups of flasks were charged with turnip infu-

sion prepared in the infected laboratory, and were afterwards subjected to the boiling temperature for periods varying from 15 minutes to 240 minutes. Out of the ten groups only one was sterilised—that, namely, which had been boiled for four hours. Every flask of the nine groups which had been boiled for 15, 30, 45, 60, 75, 90, 105, 120, and 180 minutes respectively, bred organisms afterwards. The same is true of other vegetable infusions. On the 28th of February last, for example, I boiled six flasks, containing cucumber infusion prepared in an infected atmosphere, for periods of 15, 30, 45, 60, 120, and 180 minutes. Every flask of the group subsequently developed organisms. On the same day, in the case of three flasks, the boiling was prolonged to 240, 300, and 360 minutes; and these three flasks were completely sterilised. Animal infusions, which under ordinary circumstances are rendered infallibly barren by five minutes' boiling, behave like the vegetable infusions in an infective atmosphere. On the 30th of March, for example, five flasks were charged with a clear infusion of beef and boiled for 60 minutes, 120 minutes, 180 minutes, 240 minutes, and 300 minutes respectively. Every one of them became subsequently crowded with organisms, and the same happened to a perfectly pellucid mutton infusion prepared at the same time. The cases are to be numbered by hundreds in which similar powers of resistance were manifested by infusions of the most diverse kinds.

In the presence of such facts I would ask my eminent colleague whether it is necessary to dwell for a single instant on the one-sidedness of the evidence which led to the conclusion that all living matter has its life destroyed by 'the briefest exposure to the influence of boiling water.' An infusion proved to be barren by six months' exposure to moteless air kept at a temperature of 90° Fahr., when inoculated with full-grown, active bacteria, fills itself in two days with organisms so sensitive as to be killed by a few minutes' exposure to a temperature much below that of boiling water. But the extension of this result to the desiccated germinal matter of the air is without warrant or justification. This is obvious without going beyond the argument it-

* In my paper in the *Philosophical Transactions* for 1876, I pointed out and illustrated experimentally the difference, as regards rapidity of development, between water-germs and air-germs; the growth from the already softened water-germs proving to be practically as rapid as from developed bacteria. This preparedness of the germ for rapid development is associated with its preparedness for rapid destruction.

self. But we have gone far beyond the argument and proved by multiplied experiment the alleged destruction of all living matter by the briefest exposure to the influence of boiling water to be a delusion. The whole logical edifice raised upon this basis falls therefore to the ground; and the argument that bacteria and their germs being destroyed at 140° must, if they appear after exposure to 212° , be spontaneously generated, is, I trust, silenced for ever.

Through the precautions, variations, and repetitions observed and executed with the view of rendering its results secure, the separate vessels employed in this inquiry have mounted up in two years to nearly ten thousand. Here, however, and with good reason the editor cries, 'Halt!' I had hoped when I began to carry the argument further. Besides the philosophic interest attaching to the problem of life's origin, which will be always immense, there are the practical interests involved in the application of the doctrines here discussed to surgery and medicine. The antiseptic system, at which I have already glanced, illustrates the manner in which beneficent results of the gravest moment follow in the wake of clear theoretic insight. Surgery was once a noble art; it is now, as well, a noble science. Prior to the introduction of the antiseptic system, the thoughtful surgeon could not have failed to learn empirically that there is something in the air which often defeated the most consummate operative skill. That something the antiseptic treatment destroys or renders innocuous. At King's College Mr. Lister operates and dresses while a fine shower of mixed carbolic acid and water, produced in the simplest manner, falls upon the wound, the lint and gauze employed in the subsequent dressing being duly saturated with the antiseptic. At St. Bartholomew's Mr. Callender employs the dilute carbolic acid without the spray; but, as regards the real point aimed at—the preventing of the wound from becoming a nidus for the propagation of septic bacteria—the practice in both hospitals is the same. Commending itself as it does to the scientifically trained mind, the antiseptic system has struck deep root in Germany.

It would also have given me pleasure

to point out the present position of the 'germ theory' in reference to the phenomena of infectious disease, distinguishing arguments based on analogy—which, however, are terribly strong—from those based on actual observation. I should have liked to follow up the account I have already given* of the truly excellent researches of a young and an unknown German physician named Koch, on splenic fever, by an account of what Pasteur has recently done with reference to the same subject. Here we have before us a living contagium of the most fatal power, which we can follow from the beginning to the end of its life cycle.† We find it in the blood or spleen of a smitten animal in the state say of short motionless rods. We place these rods in a nutritive liquid on the warm stage of the microscope, and see them lengthening into filaments which lie side by side, or, crossing each other, become coiled into knots of a complexity not to be unravelled. We finally see those filaments resolving themselves into innumerable spores, each with death potentially housed within it, yet not to be distinguished microscopically from the harmless germs of *Bacillus subtilis*. The bacterium of splenic fever is called *Bacillus Anthracis*. This formidable organism was shown to me by M. Pasteur in Paris last July. His recent investigations regarding the part it plays pathologically certainly rank amongst the most remarkable labors of that remarkable man. Observer after observer had strayed and fallen in this land of pitfalls, a multitude of opposing conclusions and mutually destructive theories being the result. In association with his younger physiological colleague M. Joubert, Pasteur struck in amidst the chaos, and soon reduced the whole of it to harmony. They proved among other things that in cases where previous observers in France had supposed themselves to be dealing solely with splenic fever, another equally virulent factor was simultaneously active. Splenic fever was often overmastered by septicæmia, and results due solely to the latter had been fre-

* *Fortnightly Review*, November, 1876.

† Dallinger and Drysdale had previously shown what skill and patience can accomplish, by their admirable observations on the life history of the monads.

quently made the ground of pathological inferences regarding the character and cause of the former. Combining duly the two 'factors, all the previous irregularities disappeared, every result obtained receiving the fullest explanation. On studying the account of this masterly investigation, the words wherewith Pasteur

himself feelingly alludes to the difficulties and dangers of the experimenter's art came home to me with especial force : 'J'ai tant de fois éprouvé que dans cet art difficile de l'expérimentation les plus habiles bronchent à chaque pas, et que l'interprétation des faits n'est pas moins périlleuse.'*—*The Nineteenth Century*.

THE SACRED CITY OF JAPAN.

BY CYPRIAN A. G. BRIDGE, COMMANDER R.N.

THE Son of Heaven, the direct descendant of the Sun-Goddess, the divine Mikado has deserted his ancient capital and his Palace of the Nine Gates ; and the sacred Kiyôto is now a widowed city. The Forbidden Interior* has been turned into a fair ; its galleries resound with the heavy footfalls of foreign 'barbarians,' and the strident voices of strangers from the West are heard cheapening crockery and lacquered ware within its halls. The *jin-riki-sha* dashes through the gate which the brave prince of Aidzu defended, not a dozen years ago, for his liege-lord, against the assaults of fiery Chô-shin and the headlong chivalry of Nagato. Where Satsuma struck at Nagato, where the Lord of Yodo came to Aidzu's help on that terrible August day when the rival clans fought for possession of the sacred person of the Ten-nô himself, and the chief who was to be the last *Shôgun* of the house of Tokugawa headed his retainers in full armor, foreigners are passing in little troops, going to or returning from the show, over ground for centuries undesecrated by a barbarian foot. Their presence is still rare enough to make the citizens of the capital turn round and scan them closely.

The marvellous change indicated by this state of affairs supplies food for reflection ; and of the visitors who have gone to the city of the Mikado during the last few months, some, perhaps, may have paused to consider what the full effect of it might be. The idlest sight-seer, escaping from his desk at Yokohama or Shanghai, could hardly fail to be struck by the abrupt contact between an ancient civilisation and the latest efforts

of Western progress which a visit to the city discloses.

The stranger who journeys to Kiyôto starts from the treaty port of Kobé, at the head of the Isumi Nada, the last in the chain of great *locks* which compose the inland sea of Japan. A few score of trim bungalows and stores, edging the most northern of the two sandy bays which form the frontage of the twin towns of Kobé and Hiogo, comprise the settlement opened to foreigners only eight years ago. At the back rise the sharp peaks of the Futahisan, the Mayayama, and the Kokosan, and the pine-clad ridges that connect their bases with the fertile upland which inclines gradually towards the sea. From Kobé to the great city of Osaka, twenty miles off, which gives a second name to the Isumi Nada or Bay of Osaka, stretches a vast cultivated plain now yellow with ripening corn and fields of rape, studded here and there with the emerald verdure of the young rice-plants still in the minute plots or 'nurseries' from which they will have to be transplanted later in the year. On the left are the thick pine-woods covering the hill-sides, the silver cascades of the Kobé Falls, and the sacred grove of the Moon-Goddess screening her secluded shrine high up near the summit of the Mayayama. Beyond the Kokosan stand out in bold relief the sandy knolls and ridges of the Kabuto-Yama sparsely sprinkled with patches of young pine-wood. On the right sparkle the blue waters of the Inland Sea, bounded by the dim outline of the highlands of Isumi.

Few spots in the world can surpass in loveliness this tract of cultivated land.

* A Japanese name of the Palace at Kiyôto.

* *Comptes-Rendus*, lxxxiii. p. 177.

The scenery is of the highest beauty. Mountain, stream, cascade, and sea; grove and copse; golden grain and brilliant flowers in middle distance and foreground; deep-blue waters fading into a pale horizon, shadowy peaks melting into the violet distance, make up a picture such as assuredly few countries can present to the spectator. All tells of plenty and of peace. The whole country, as far as the eye can reach, is dotted with villages and farms. Every square foot of land is cultivated with elaborate care. The homesteads are large, commodious, and in good repair; the villages cleanly and well built; the roads well made and admirably kept. Troops of peasants were laboring in the fields, or walking to and fro along the roads; lines of pack-horses and oxen could be seen bearing burdens from field to village, or from the villages to the town. Few women and children of tender age were observed, as in more enlightened countries further west, engaged in the laborious husbandry of the fields.

The density of population is extraordinary. The shore is fringed with a continuous row of towns; whilst up to the very roots of the spurs which strike out from the range inland, villages and hamlets occur at every half-mile. Now and then a grove of trees of noble growth indicated a sacred spot, and nearer approach revealed the curving eaves and high-pitched roof of a temple or a shrine. No village is without at least one such monument of pious munificence, as in bygone days lamented by the Roman lyrist—the only building of any architectural distinction to be seen. Behind or by the side of each stands a neatly-laid-out cemetery, the 'God's-acre' of the small community.

The dusky tiling of the roofs, and the sun-embrowned hue of the unpainted walls of the dwellings, offered an agreeable contrast to the golden yellow of the corn-fields and the bright tints of the surrounding foliage. The uniformity of the sky-line of the rows of cottages was varied here and there by the loftier elevations of the temples, and the frequent trees which overhung the gardens of the villagers as well as the inclosures sacred to the gods. Many a village, decked with flags and bannerols, was keeping the festival of a local divinity. From

short transverse wands on tall bamboos depended long strips of white cotton, on which were blazoned the bars and pales, the heraldic spots and circles of the still remembered feudal lord. More ambitious painting and ornate inscriptions appeared below; a warrior slaying a dragon, a horseman in full armor, or an archer bending his bow. From higher poles fluttered small squares of red and white. In the clear atmosphere and gay sunshine of the Japanese May, the saucy flaunting of these pennons in the wind added much to the pleasing brightness of the scene.

The garb and manners of the peasants working in the fields showed strangers that they were in a land morally and geographically far distant from their own. The forehead prolonged upwards by the custom of shaving the head back to the crown, and the hair brought backwards in a broad band across the ear on either side, obscures or softens the obtrusive simiousness of the Mongolian features. The flowing robe of blue, its 'Gabine cincture' on the men at work or travelling, the snow-white buskins, the thick-soled sandals of wood, recalled the vesture of an older age. A grave husbandman guiding a simple plough of wood tipped with iron, in his loose gown edged with a broad fold or a stripe as ample as the *laticlave*, his stature increased to the Western standard by the thick sandals on his feet, might pass for an Oriental Cincinnatus tilling his patrimonial fields.

Such ideal parallel would be soon dispelled. A line of railway, not long completed, seams the fair champaign with an ugly scar of 'Western Progress'—the shibboleth of New Japan. Buildings and bridges of brick mar the prospect from many a village or river's bank. Gaunt telegraph-posts stand in ghastly line in sacred groves and thickets of waving bamboo. At the railway stations the officials have discarded the graceful and becoming dress of their fathers, and have assumed the tight-fitting garments of the West. Instead of picturesque figures draped like Grecian statues and exalted upon high sandals, on the platforms strut ill-favored dwarfs with stubbly scalps, vain of their brass-buttoned pea-jackets and gold-laced caps. The cleanly matted flooring of the rooms has

been replaced by one of planks, befouled by the boots which the wearer cannot put off, like the national sandals, at the threshold. The neat lacquered writing tables, some three inches high, at which Japanese accountants kneel, have given place to ungainly copies of European desks and chairs. To enter one of these buildings is to pass from one world, from one historic epoch, to another. They suggest an irruption of Birmingham into Arcadia.

The line of railway ends at present at the vast city of Ozaka. This Eastern Venice, with its many streams and scores of bridges, its noble temples, its now deserted *yashikis*, in which, till but a few years ago, dwelt Daimios and retainers when in attendance upon the Shôgun, stands at the mouth of the two streams which unite in the Yodogawa, and form the great channel of communication with Kiyôto. It is, or was till lately, the great emporium of Japan. When the Tokugawa succeeded to the Shôgunate, with the true instinct of *parvenus* they turned their thoughts to maritime commerce, and possessed themselves of the great seaport towns. Ozaka and Nagasaki, as much as Yedo, were cities of the Shôgun. The dead flat, seamed by canals and streams on which the first-named city stands, is overlooked by the great castle of the hereditary Mayors of the Palace, who governed for the Oriental Merwings idling in the *miako* of Kiyôto. Its deep moats, high parapets, and gigantic revetments bear witness to the pre-eminence of its former lords. Three lines of curtain enclose the square mass which forms the keep. Not even the gigantic lines raised by the Spanish Grand-Master Cottoner, to shield the ramparts of the 'Three Cities' which lie over against Valetta, equal these stupendous works of defence. The huge blocks which face the scarps are larger than the stones of Baalbec, or of the pyramids of Ghizeh. From the summit of the escarp to the bottom of the moat is sixty feet at least. The dwelling of the Tokugawa, of *Hatamotos*, and of retainers have been destroyed; and in their place rise tasteless piles of barracks built on the Western model. The warriors who throng its *place d'armes* no longer wear armor, nor carry two swords in their girdles. A battalion of the Mikado's

troops, ill-dressed in absurd imitations of Western uniforms, staggering under heavy cowskin knapsacks of the French pattern, with feet encased in unaccustomed boots, were burlesquing the evolutions of a European drill-ground on the esplanade that lies in front of the main entrance. A filthy guard-house stands just within the gateway, and, whilst the visitor awaits there an order of admission, he can reflect upon the changes wrought in a few years' time. The guard-house is typical of the imitations of foreign institutions so rife in New Japan. Its filth and slovenliness, its grimy table and dingy bedsteads, are in striking contrast to the order and cleanliness, the dainty furniture and pretty ornaments of even the poorest Japanese house. And so it is throughout in this fair land, where beauty itself is orderly and cleanly, and where even picturesque squalor is unknown.

From Ozaka to the capital the road is as level as the stream that runs beside it; now passing amidst fields and gardens, now carried along the vast embankments which confine the Yodogawa. The valley of this stream is a broad plain between two lines of heights that converge towards the capital. Along this plain are crowded villages and towns; and cultivation covers its surface and runs high up the slopes. Scarcely a house is passed before which there is not spread out to dry a little crop of tea plucked from the garden patch close by. Corn, rape, beans, and peas cover square miles of ground; and groves and temples rise from the expanse of waving fields, like islands from a golden sea. There was a cheering air of comfort about the villages and cottages. Anything like poverty, in its European sense, was nowhere to be seen. All seemed to have enough to supply the simple wants of a people yet uncontaminated by intercourse with the more self-indulgent strangers from other lands. Misery and beggary in this favored country still hang closely to the outskirts of the treaty ports. Chubby children and rosy maidens crowded the village streets, happier than their peers in those more 'civilised' countries in which woman and child must labor in the fields. Those who have brought the 'civilisation' of Europe to the shores of the inland sea may mistrust their handi-

work if they compare the 'gangs' of the *shires* and the hop-gardens of Kent with the laborers and the corn-fields of the Yodogawa valley.

The line of railway has been pushed on from Ozaka to the capital, and is now open; and the scream of the locomotive and the bustle of a 'terminus' will soon be familiar to the quiet dwellers in the sacred city. The traveller previously either ascended the Yodogawa in a passage-boat, or traversed the road by land in the *jin-riki-sha*, or manpower carriage which has become so common throughout the country. The distance by land is thirty-six English miles; and the same two men drag a passenger and his luggage the whole way in six hours including stoppages. One man ran between the shafts, and the other pulled at a single string fastened to a collar round his neck, acting as a trace. The speed and endurance of these runners is extraordinary. Keeping up a rapid pace with short and infrequent halts, they exhibit no signs of fatigue throughout a journey, and arrive fresh and active at its end. They lay aside their scanty clothing, retaining only a broad sun-hat and a narrow waistcloth of white cotton. They even discard their light sandals of plaited straw, and on the way run barefoot as the *hemero-dromoi* of old.

The village of Hashimoto lies halfway between Ozaka and the capital. At the beginning of its long, straggling street there is a cluster of native inns, at which travellers to and from Kiyôto stop for rest and refreshment. The village stands upon the river; and every inn has a group of neatly-matted rooms with balconies projecting over the water. The kitchen, the greatest room in all Japanese houses, lies next the street, an offshoot from it serving as a *restaurant* to casual customers; whilst the real travellers are accommodated nearer the river frontage. This latter portion of the inn is separated from the kitchen by a little court-yard ornamented with rock-work and dwarfed trees. Thus the tired traveller can rest undisturbed by the bustle in the busier part of the hostelry. Foreigners are still uncommon enough on the great high road to the ancient capital to attract the attention of the villagers, and a little knot of curious folk

clustered at the door and lingered to see the strangers get into their *jin-riki-shas* and depart.

Parties of pleasure-seekers in the neighboring inns, enjoying themselves in the water-side rooms and balconies from which the stream can be surveyed and a fine view of the heights on the farther side obtained, leaned far over the balustrades to catch a sight of the foreign wayfarers. But there was no attempt at intrusion; none of that vulgar mobbing of visitors from strange countries to which we are so accustomed nearer home. The gentle courtesy which distinguishes the Japanese restrained them from satisfying a curiosity which shone forth from their dark and eager eyes; and the gazers shrank timidly back for fear of being caught in so flagrant a breach of good manners as staring at a stranger. How soon this natural politeness and good breeding will yield to the assaults of 'Western Progress,' the manners and the bearing of the *Occidentalised* natives, dressed in coats and trousers, and the brief authority of some post in the new-fangled hierarchy of officialism, indicate but too distinctly.

A ferry crosses the broad and shallow Kidzugawa, an affluent of the Yodo, some five or six miles beyond Hashimoto; and less than an hour's run from the crossing brings the traveller to the town of Yodo. This in the old days was an outpost of the Tokugawa towards Kiyôto. The Lord of Yodo was a *fudai* Daimio, or immediate vassal, of the Shôgun. The defection of his forces from the Tokugawa's side in January 1868 turned the scale in the fierce fight that raged in the streets of his castle-town, and was an immediate cause of the downfall of the Shôgunate. How has the stout baron's timely treachery been rewarded? His castle is half destroyed; its white towers falling into ruin stand out from the thick foliage of the park trees like mournful monuments of departed power; and the *places d'armes* and enclosures are being turned into tea-plantations for the villeins regardant of the fief.

There is a wide bridge near the ruined castle, the arch of which spans the Yodo river which gives its name to the town. The road towards the capital crosses this bridge, and, having followed

the right or western bank of the Yodo for two or three miles, enters the city of Fushimi, which forms a vast suburb of Kiyôto. Navigation here ends, and the river splits into the two streams of the Ujigawa and the Kamogawa; the former comes from the rich tea-district of Uji and the sacred site of Nara, and the latter cuts the capital into two unequal parts. From the entrance of Fushimi to the body of the capital the road is a long street of continuous houses. On the right-hand side stands the celebrated shrine of Inari-sama, the Fox-God, which in May is visited by thousands of votaries of the Shintoo creed; and long processions of men, women, and children—many of them of the higher classes—were seen walking round and round the central building in fulfilment of their vows. In a grove to the left is a high-fenced paddock into which the divine Fox comes from time to time to receive the food, usually rice, cast for his acceptance by pious hands over the enclosing walls of plank. Shreds of paper torn and folded in rectangular creases, and strips of leaf inscribed with prayers or vows, were stuck on tiny bamboo wands about the holy spot. The place offered a gay spectacle on a bright May afternoon. The gaudy red of the *triji*, or peculiar Shintoo portal, and of the columns of the shrine, contrasted well with the verdant tints of the sacred grove at the back; and the smart hues of the broad zones or *obis* of the maidens in the procession, as 'full-girdled' as Persephone, lightened up the dull grey of the court-yard pavement with bits of gleaming color. A curiosity in art was pointed out amongst the *ex voto* pictures hung upon the walls. This was a large painting on wood, presented by Korean ambassadors some generations ago. It represented the reception of their embassy at the Japanese Court, and was a fair specimen of an evidently Chinese school.

The Koreans monopolised the ancient foreign policy of Japan. The heroic in history and legend owes its origin to the relations of the two nations in past ages, as the foreign element in the national religion and literature does so largely to former intercourse with China. A short distance from the shrine of Inari stands an artificial mound, called the Mimizuka

or 'grave of the ears and noses.' This hillock bears some resemblance to the ancient mound of the Danejohn at Canterbury. When, towards the end of the sixteenth century A.D., the generals of the deified Taiko-sama—known during his earthly career as Hidéyoshi, the Lieutenant of Nobunaga and predecessor of the Tokugawa Shôguns—invaded the Korea, the multitude of the slain was such that only the ears and noses, and not the heads, could be brought back as trophies to Japan. The ghastly spoils were buried beneath this mound.

It is opposite the gateway of the great temple of Daibutsu. The revetment of the *terre-plein* of this holy place contains stones almost as gigantic as those in the castle walls at Ozaka. Within the enclosure is a huge bust, fashioned of lacquered wood, of the great Buddha. It replaced an ancient statue of bronze, which is said to have been 160 feet high, the metal of which was converted into money during some one of the civil commotions of which this part of Japan has been the theatre. A more interesting object is the great bell standing on the ground in the main court-yard. Keeping within the enclosing wall of the temple area, and returning towards Inari, the visitor will come to the Rengehoin temple erected in honor of the goddess Quannon. A vast hall standing by the wall and fronting a whole plantation of that favorite flower of the Japanese, the purple iris, is known as the *San-jin-san-grudo*, or 'temple of the thirty-three thousand gods.' It contains a thousand figures of gilt wood, with many arms, arranged on a long terraced platform which occupies its whole length. Beneath its wide-spreading eaves runs a broad verandah used in old times as a shooting-gallery, and many a votive offering of arrows and of bows still hangs affixed to tablets on the walls.

Kiyôto occupies the level bottom of a valley between the ridges of Hiyeizan and Higashiyama on the east, and the classic elevation of Tenno-san on the west. Two streams, the Kamogawa and the Katuragawa, enclose the main part of the city on a site almost insular in form. A considerable suburb, or, perhaps, an integral portion of the capital, lies beyond the Kamogawa, which is crossed by many bridges connecting the

two parts. In the early summer the bed of the river was nearly dry, a tiny rivulet only trickling through its deepest channel. The shingly bottom was converted into a vast bleaching ground, and was white for many an acre with long strips of cotton cloth spread out upon it in the sun. The Third Bridge, or *San-jio*, built, like many of the finest edifices of the capital, by the great warrior Hidéyoshi, supplied in Kiyôto the place of London Stone, as from it all distances were popularly measured. The quarter of the town, beyond the Kamo, on the lower slopes of Higashiyama, is that in which some of the finest temples and the best inns are situated. Thus it is the common residence of strangers visiting the city. A cairn-like mound, crowned with a clump of trees, rises above the ridge of Higashiyama, and a complete view of the city, spread out like a map below, can be obtained from it. This height from its resemblance—when seen from a distance—to a vessel under sail, is called the *Mamyama*, or Ship Hill. The road to it runs past the great Gion Temple and through groves of fir and cherry trees. On either side were growing large patches of azaleas gay with scarlet blossom. On a plateau near its foot, a row of tea-houses has been built, to which the citizens resort in large numbers to enjoy the fresh mountain air and the extensive view.

The city is built with great regularity and compactness. The streets are straight, very wide, and scrupulously clean. The houses are all of wood, except a few unsightly masses of stuccoed brick designed on the model of foreign buildings. The greater part of the temples and shrines form a fringe to the city proper, and do not interfere with the general regularity of its plan. The houses, as throughout Japan, are of a toy-like tininess, and the lowness of their elevation is exaggerated by the width of the thoroughfares. Many quarters are composed entirely of private buildings; and their dark walls of plank, often painted black, give a sombre aspect to some of the best districts. In the other streets, lined with shops, there is no lack of cheerfulness. Throughout the day they are filled with a busy crowd. Sellers of fruit and of cool drinks, with little stands of wood ornamented with col-

ored transparencies of paper which are lighted up at night, take up their stations on the kerb-stone of the narrow side-walks. Rows of crimson lanterns hang from beneath the eaves. The dark-blue robes of the male citizens are relieved by the scarlet *obis** and brilliant under-skirts of the other sex. A troop of maidens coming home with cheerful chatter from some of the numerous schools throws a gleam of brightness over many a street picture that but for their presence would be dull and sombre.

The Exhibition of Japanese Art and Manufactures was held in the *Gosho*, or Imperial Palace, till now not opened even to any Japanese below the rank of Kugé, or Court-noble. This vast edifice covers a great extent of ground. High walls surround its courts and gardens, and about them are seen trees and the steep roofs of the halls within. The whole is built of the universal material, wood; and except that there are some great halls, open to the courts on one or more sides, has little imposing in its appearance. The general plan is that of a series of galleries or corridors raised several feet above the ground, and embracing with almost labyrinthine turnings the numerous courts. In some of the latter are pretty Japanese gardens with flowers, and grass, and dwarfed shrubs, and lilliputian streams. The galleries are cut into chambers by screens and partitions of flowered or gilt paper in beautifully lacquered frames; and the floors of all are covered with finely-made matting. The only furniture is an occasional low writing-table with ink-stone and vase for brush-pens, or a square cushion on which to kneel or sit cross-legged.

The objects exhibited were ranged in the longer galleries, and barricades of stout bamboos kept the stream of visitors in the right path. Amongst them the most interesting were some of the personal effects of the Sovereign—the regalia, ancient head-dresses and Court-robes, antique writing-tables and cabinets, and some unique specimens of rare white lacquer. The first objects met with in the Exhibition were an American plough and a large farm-wagon, as if in

* Wide girdles worn by the *musûmê*s, or unmarried women.

mockery of the agricultural and economic conditions of the country. The spade husbandry of Japan has changed a wilderness into a garden, and the light country ploughs have turned up the soil in thousands of tiny fields, which would scarce give room for a Western team. The abolition of the class of great land-owners has removed all hope of accumulating capital sufficient to purchase the costly implements of Western husbandry. The new proprietors, heavily taxed to purchase iron-clads and breech-loaders—the true symbols of modern progress—living on the produce of their farms, and clad in garments made from raw material of their own rearing, can amass but small savings in a lifetime; savings, too, diminished to no trifling extent by the satisfying of new personal wants created by contact with foreign peoples.

In one of the larger courts a square space was railed off in which elderly men—of an age to have the old order of things fresh in their memories—dressed in the ancient Court-dresses of the Mikado and his Kugés, were playing the old Court-game of foot-ball: it consisted in kicking a large light ball from one to another without letting it light upon the ground. In another part of the Exhibition a small pavilion was set out with an Imperial tea-service as arranged before the late assumption of Western customs. One suite of rooms was devoted to the exhibition of the old *gala* robes of the nobility and high officials. A comely young Japanese was being invested, by a kneeling attendant, with the flowing silks and lacquered arms of former days, incomparably more tasteful in design and ornament than the absurd uniforms, like those of a drum-major of some American militia regiment, which are *de rigueur* at Court at the present day.

Elsewhere were displayed on shelves ancient manuscripts and the writing equipment of celebrated scribes. Pictures of various epochs were hung upon the walls. Mingled with these were imitations of foreign schools by native artists. Even on the art of beautiful Japan the levelling hand of Western intercourse has laid its blighting touch. The home, perhaps the last asylum, of a really national style of art has been invaded by the frigid conventionalities of that

eclectic cosmopolitanism which satisfies the artistic tastes of modern European society. That style of art which was founded on observation of Nature, which followed Nature in all the richness of her luxuriant variety, is now yielding to the assaults of the prim formalism of the West. Shapes and outlines which con-sorted well with the clear atmosphere and sharply cut contours of ancient Attica, sink into mere vulgarities when overlaid with the rich ornamentation of which Nature supplies the pattern in this sub-tropical land. The taste that can reproduce the masterpieces of Doric architecture upon the mean dead levels by the Seine or the Thames, and on paltry elevations that mock the beauties of the craggy Acropolis or the Sunian promontory, that can raise the Monument of Lysikrates above the roofs of London shops, or plant Italian porticoes amidst the fogs and vapors of the chilly North, has created a demand for the worthless incongruities of style which fill our Western markets as specimens of Japanese art. The artists whose delicate perception could seize the beauty of the soft-toned hues that dwell in the fleecy cloud or on the surface of the waving stem, and could transfer them to the *faïences* of Satsuma or Kiyôto, now follow the rage for foreign models, and produce jugs and bowls as prim and mean as any that emanate from Staffordshire or Delft. Overwhelmed by a belief in the superior æsthetic development of the art-loving inhabitants of Birmingham or Massachusetts, their hands are fast losing their cunning in attempts to reproduce the plunder of Etruscan tombs ornamented with such appropriate embellishments as waving bamboos or the luxuriant verdure of moist rice-fields.

This is the condition to which the fictile art of Japan is being fast reduced. In pictorial art the decline has begun, and an unmeaning artificialism is the most striking feature of the productions of the new school. The ornamentation of the textile fabrics of the country is following the same path. Imitations of the webs of Lyons and Spitalfields are supplanting the old national patterns, which are now relegated to the 'curio' shops of the treaty ports. In architecture the descent is still more apparent. The high-pitched roofs, the curved eaves, the

stately pillars, the long colonnades are giving place to copies of the rectangular masses of brick or Caen stone which disfigure the earth at Camberwell or Asnières. On a beautiful site, beneath the trees which till but lately formed the sacred grove of a temple, close by the Shinigawa station of the Yedo railway, stands an ugly building with the hip-roof and bay-windows of a 'villa residence' of a suburban house-agent's list. This is the abode of 'Mr.' Mori, who some eight years ago was known to the world as the Prince of Chossiu-Nagato, the stout peer of the old feudal empire who, at his fortress of Simono-seki, defied the forces of four nations of the West, and who strove with the three families of the Tokugawa, and all the vassals of Aidzu, to gain possession of the sacred person of the offspring of the Sun.

The effect of foreign intercourse upon the morals and social life of the Japanese, though at present less striking, is, perhaps, not the less important. The people who find that the adoption of Western garments compels them to sit upon chairs, are not long in discovering that the use of knives and forks is essential to respectability and to the establishment of a claim to civilisation. Knives and forks are cumbrous implements to assist the deglutition of rice and the smaller kinds of shell-fish. So a more solid food, less suitable to a sub-tropical climate, has to be procured. Because the stout-framed Anglo-Saxons must devour solid masses of boiled or roasted flesh, even in low latitudes beneath a burning sun, and wash down their food with strong wines and malt liquors, their imitators—an increasing band—must do the same. The pretty tea-houses of Japan, with their delicate beverages and *bon bons*, must give place to copies of European *restaurants*, with rows of black bottles and joints of meat, which are now conspicuous objects in the streets of many Japanese towns. It will be interesting to watch the pathology of 'New Japan' as the carnivorous habits of her foreign visitors continue to modify the temperate diet of her light-feeding people.

The citizens of Kiyôto are still faithful enough to ancient customs to get to bed betimes. Soon after dark the wide streets of the city were nearly deserted.

There was one evening entertainment, however, which all who witnessed it, guides and visitors, declared to be well worth seeing. This was an *odori*, or dance. The streets leading to the building in which the performance took place were hung with gaily-colored paper lanterns, and lighted by cressets filled with blazing brands. On the farther side of a small court-yard was a doorway which led to a sloping ascent strewn at the end near the entrance—as is universal in places of public resort in Japan—with the sandals of those who had already gone in. The ascent led to a passage, and the passage to a large rectangular room of moderate height with a gallery along one side, in front of which were a few chairs and benches for foreigners, and natives too much attached to the 'party of progress' to kneel *more Japonico*. The body of the room was an open *parterre* covered with blankets of a dull crimson, and was soon filled with a well-dressed audience, who smoked their tiny pipes and knocked the ashes out after each whiff with the peculiar rattle so well known to those who have been at gatherings of the Japanese. On three sides of the room hung curtains. The place was lighted by large candles of native manufacture, made from the wax-tree, with stout twisted paper wicks. A lad from time to time passed along a platform in front of the curtains and snuffed these flaring wicks with a pair of iron rods manœuvred like chop-sticks, dropping the snuffings into a bucket of water placed for the purpose.

After an interval of some fifteen minutes a low thrumming of stringed instruments was heard from behind the curtains. The gentle ripple of conversation in the *parterre* and the rattle of the pipe-bowls on the ash-holders of the *shi-bashis* (fire-boxes) ceased. The performance was about to begin. The curtains at the sides were drawn up, and on either hand above the platform was seen a dais on which knelt in line twelve girls clad in dresses of brilliant colors amongst which red predominated. Their faces were thickly covered with a white cosmetic, and their lips stained a bright ruby. Those on the right of the spectators played upon a kind of guitar, which they struck with a broad-edged *pléctron*, with a movement so simultaneous and me-

chanical that, their muscles and features being otherwise rigidly immovable, they almost seemed to be automata. On the left the same number arranged in the same manner played, some on kettle-drums with simultaneous taps, some on smaller drums of hour-glass shape which rested on the right shoulder and were tapped with the fingers of the left hand, and others on sharp-toned flageolets and flutes. After a little the players began to sing in shrill chorus, occasionally not unmusical, keeping time admirably to the regulated beat of the instruments.

Then the central curtain opposite the spectators was drawn aside, and disclosed two bands of performers, each band numbering sixteen girls, standing or kneeling in graceful groups upon the principal stage. All were gaily dressed in bright-colored garments and brilliant *obis*, and in the hand of each was the inevitable fan. At first the bands separated, retiring to opposite sides of the stage; then they advanced, retreated, approached each other, and moved apart. Now they formed in line, facing each other upon the transverse platforms beneath the musicians, now withdrew to the central stage. Then they would fall into groups or couples, would stoop, kneel down, and stand upright again, keeping perfect time throughout with the music, and marking the measure with a resonant stamping of the foot. Then the action became more individual. Each member of a couple would act a *by-play* with her partner. The gesture of one would imply request, entreaty, deprecation; of the other refusal, acquiescence, or command. Then on the one side ill-humor, on the other sorrow and dismay: then reconciliation, and joy on both sides. Now the fan was gaily fluttered, now sharply closed with a peremptory wave; now it dismissed imperatively, and now it beckoned in invitation. At one moment the bearer would withdraw it with fearless frankness, at another would coyly hide her charms behind its ample screen. The pantomime was graceful and in a high sense dramatic, and modest almost to coldness. The curtain fell, and after a short interval was again drawn up. Now the stage, which hitherto had had merely a background of paper screens,

was decked with flowers and evergreens, and artificial cascades, and was illuminated with bright lights in clusters. The performers were massed in a pleasing group in front, the music became more lively, and in an energetic flourish the performance came to an end.

This was a purely national exhibition, uncontaminated by the admixture of any foreign element. There was a grace and purity about the actions and the gestures that argued well for the native taste. Such pantomimic dancing might have been performed in days of old by bands of modest Dorian youths and maidens in honor of the far-darting Apollo. The visitor fresh from a sojourn at the treaty ports may well ask himself how long this purity will last in the Sacred City. He may be able to recall, if not personal experiences, at least authentic descriptions of the lascivious *Nautches* of their *Yoshi-waras*. If in a corner of his heart he can find room for some small regard for the piety and ancient faith, for the tastes developed under the auspices of some Romulus or 'unshorn Cato' of this far Eastern land, for a purity which disappears before Western intercourse like snow before the noonday sun, assuredly he will blush to feel that these unmeaning obscenities are the direct product of the presence in Japan of the foreign race to which he himself belongs.

Among all the temples and holy places which thickly fringe the outskirts of Kiyôto, and of which many give titles to the scions of the Imperial house, as the suburban churches of the Eternal City to the Roman cardinalate, none is nobler than the great Buddhist foundation of the Chioin. Standing on the slope of Higashiyama, it has a site at once commanding and retired. An avenue leads from the roadway to a broad flight of steps which ascend to imposing propylæa, in an upper gallery of which are ranged a dismal collection of wooden images representing personifications of the evil passions of mankind. On a broad levelled space is the main body of the temple, with its altars, its statue of Buddha rising from the lotos, and its gigantic colored lanterns and drums. This vast hall is one of the largest in the empire, and is celebrated as being the place in which both the Mikados and the Shô-

guns came to offer up their vows and prayers. A long gallery connects it with a large block of buildings divided into halls, corridors, and chambers, in which were lodged these illustrious personages and their followers when they came at stated times to the sacred edifice. On some of the curtains which screened the galleries from the sun was emblazoned the chrysanthemum, the cognisance of the Imperial family; whilst on others was still visible the trefoil of the *San-ke*, the three families of the Tokugawa, from whose scions for upwards of two centuries the Shôguns were chosen.

The temple domain extends far back and up the hill-side. There are splendid groves of pine and cedar, whose dull foliage is enlivened by an intermixture of cherry trees and brilliant azaleas. Amidst the groves are the buildings of the considerable monastery and priestly seminary attached to the temple. There are halls, and chapels, and detached blocks of dwelling-houses, and amongst them courts, and quadrangles, and prettily-laid-out garden plots. There is a notable air of peace and holy calm, of academic quiet, about this interesting spot so near to and yet so shut off from the bustle of the great city. It was pleasant to seek refuge from the morning sun and lounge away an idle hour amongst its silent courts. Now, indeed its glory is departing and symptoms of decay were easily discernible. Many of its buildings are deserted; and, the pious largesses of the great territorial nobles having ceased with the existence of their order, the holy men who lived upon their alms are dwindling in number, and will soon disappear.

Other conventual establishments have fared no better in the changed order of things which has lately overtaken the country. The road which skirts the domain of Chioin, and passes in front of its stately propylæa, joins the Tokaido, the great highway between Kiyôto and the capital of the Shôgunate, Yedo. This magnificent road leaves Kiyôto by a somewhat steep ascent through a pass of moderate elevation between the ridge of Higashiyama and the loftier summits of Hiyeizan. In May it was crowded with passengers on foot, on horseback, in *jin-riki-shas*, or in the *norimom*—the Japanese litter which is still to be seen

in the ancient city—with peasants carrying loads or returning from market; with strings of pack-horses, and waggons with great solid wheels of wood fixed to revolving axles like those of that ancient form of vehicle which has existed on the country roads of Portugal from the Roman occupation of Lusitania till the present day. On the left of the road, as it reaches the outskirts of the city, stands a shrine of octagonal shape, an unusual design in Japanese ecclesiastical architecture. Though built of wood and barbaric in ornament and detail it looked, at a little distance, not unlike the Temple of the Winds still existing at Athens. On both sides there were large inns for the accommodation of the farmers, carriers, and lower class of travellers. The last on the right-hand side was of great size, and in plan bore a striking resemblance to the hostelry, of which the ruins can still be so plainly traced, by the side of the Street of Tombs at Pompeii.

The Tokaido winds round the southern end of the great lake of Biwa; and the large town of Otzu, through which it passes, is the first stage on the way from Kiyôto. Above Otzu, and overhanging the lake, rises the steep elevation of Hiyeizan and the lower stage of Miedera. From the temple court of the latter a magnificent view of the lake and the surrounding country can be obtained. The lower part of the hill is enveloped in a thick grove of lofty chestnut trees, which in the summer were covered with rich masses of yellow blossom. In front of them lay the brown roofs of Otzu and the blue calm waters of the lake. On the other side of the water was seen a remarkable ridge of sand-hills, volcanic and of recent formation, whose bare sides formed a marked contrast with the luxuriant verdure all around elsewhere. On Hiyeizan still stand the buildings of the ancient temple of Yenrekiji, whose foundation is coeval with that of the capital, the Mikado Kaumu having been the founder of both.

The priests of Yenrekiji occupied in Japanese history a position somewhat akin to that of the Templars in the history of the West. War as well as devotion was part of the business of their lives. They fought with and defeated rival fraternities not so well supplied with their peculiar controversial weapons

as these warrior-priests. In the sixteenth century of our era they dared to contend with the Ashikagawa Shôguns, and were destroyed by the celebrated Nobunaga. The victor also burnt down their temple, which the piety of subsequent ages restored. It still exists, but shorn of its former splendor, and receiving but scant support from the predominant party, which thinks to court the favor of 'advanced' thinkers in Europe by neglecting and despising the ancient and comforting beliefs of the great mass of the people.

As yet the city of the Mikado has changed but little in outward appearance from the aspect it bore through the centuries of the country's seclusion. That which is archaic and national still meets the stranger at every turn. But in Japan movement along the path of change is rapid, headlong. No custom or institution of the races of the West, however ill-considered on the spot, is thought unworthy of at least a trial. The most venerable and beneficent of the political institutions of peoples for ages in the enjoyment of systems which time has rather modified than changed, have been made the playthings of the revolutionary

zeal of the experienced and able politicians whom the events of half-a-dozen years have brought to the surface. Parliamentary government has been twice tried and failed. Freedom of the press has been granted and curtailed. The great peers of the old monarchy have been given official rank and power, and have been deprived of it. Bentham and Mill are studied and quoted by enlightened reformers whose judicial system rested on torture little more than a year ago. It is a pitiful tale, this overwhelming of an interesting and even romantic country by a deluge of vulgar common-place. Some sense of the fitness of things still exists even amongst the party of enlightenment. It has steadily resisted attempts to introduce generally into the country, which it has already supplied with sufficient distractions of its own, the bitter contentions of rival Christian sects, and at this moment it keeps in prison thirty editors in a single city. How long it will continue to perform acts so worthy of praise none can tell: in the mean time those who would see anything of the real Japan should visit the country without delay.—*Fraser's Magazine.*

FRENCH HOME LIFE.*

NO. I.

RELIGION.

OF all the influences which have contributed throughout the world to the formation of national character, there is, assuredly, not one which has been more powerful than religion. Its effects have varied so widely with the particular faith which has happened to be at work, its incitations and its issues have been so different amongst different groups of believers, that the very divergences of the results produced by it suffice to prove, by their number and their contrasts, how vigorous and how all-embracing must be the cause that could provoke them. Wherever we look about

the earth, wherever we seek in history, we find diversities of temperaments induced by diversities of religious opinions. Origin and offspring hold so distinctly together, that it is not possible to deny their relationship. Religion has been, everywhere, an active and visible procreator of the special characteristics of races: its handiwork stands glaringly before us in the multifarious and contradictory outgrowths of the creeds of the East; we observe the working of its fecundations amongst ourselves in the variations of the fruits which grow on the branches of Christianity. Even if we limit the comparison to Catholics and Protestants, we recognise at once that perceptibly differing harvests of life are resulting, all around us, from the opposite guidances to which the members of the two Churches have been subjected. Catholicism, taken as a whole and excluding exceptions, is a religion of bright-

* This is the second series of articles with this title, by the same author. The First Series, published in book form, by D. Appleton & Co., was much admired for the knowledge displayed, and the graphic fidelity of the descriptions.—Ed.

ness; it is based, especially in its higher developments, upon a joyful and affectionate intimacy with divine things; it is a system which gladdens toil, which lightens pain, which suppresses doubts and responsibilities, which seeks to render its daily usage attractive, and to surround with charm the obligations which it imposes. In Protestantism, on the contrary, particularly in some of its Continental forms, there is often a certain voluntary building up of severity and gloom around the practice of religion, an obtrusiveness of the uglier aspects of morals, a disposition to render duty unpleasant: it does little to adorn existence; in many of its advanced phases, indeed, it sets purposely to work to blunt away imagination as a danger, and to dim out cheerfulness as a foe.

With such markedly opposing causalities in operation, it is but natural that, even between close neighbors, the resultants should also be dissimilar; and though it would be an exaggeration to pretend that the effects are as varied in Europe as in Asia, and that each great Christian communion has developed—like the leading oriental faiths—a special outline of character which is proper to itself alone, there is no denying the general fact that the national idiosyncrasies of many countries of the Western world have been largely stimulated by religious leverage. The temperament of the French, for instance, is due most certainly, in part, to religious causes. Their peculiar emotional faculties cannot fail to have been quickened by the working of their creed. When we remember that for centuries after their constitution as a people, their faith and their practice of it remained not only unchanged, but virtually unweakened—that the brightening influences of that faith operated almost unchecked upon the entire nation—we are forced to own that so unceasing an action must have excited and have fortified certain peculiarities of their national temper, and that dispositions which were inherent in the Franco-Gallic blood must have been amplified and developed by the constant pressure of a congenial religion.

No other general cause can have exercised more sway than this one on the constitution of the interior life of France. No cause is more worthy of examination

in a study of that life, especially as we are not limited in our investigation of it to the unchanging absolutism of a long-existing domination, but, on the contrary, are at once introduced to new springs of movement, and are brought face to face with the most eager actualities of our time. A survey of the question, however circumscribed it be, obliges us to take account not only of the stored-up energies of old forces, but also of the recent intervention of new ones,—not only of the inherited derivations of the past, but also of the tentative operations of the present. Our purpose is to try to measure the movement of these various potentialities in the home life of France. With that object before us, the simplest plan will probably be to attempt to value the energies at work before we seek to determine their effects. Let us try, then, first of all, to estimate the general position of religious opinion in the country, and the actual form and force of its action.

We encounter a difficulty at the outset. We have two distinct and conflicting agencies before us: the past, which acts on the national character as a whole; the present, which presses on each individual separately. The sequences of the past we can measure with tolerable precision, but the achievements of the present are more knotty to determine. The old doings of French faith are written, in full light, in the history of the land; but the burrowings of the new workers are under ground. We can see without an effort what religion did formerly for France,—we can point to its magnificent action on the formation and the unification of the character of the race; but it is not so easy to detect with certainty what the competing forces of Ultramontanism and irreligion are effecting in her now. Consequently, in approaching this vast and delicate question of the action of religion on the contemporary life of a great people, it is prudent to begin by proclaiming that there is a grave obstacle in our way, that no convincing evidence is obtainable, that personal experiences are all that can be offered here, and that the results of personal inquiries cannot be expected to be regarded as satisfactory testimony by others; they may, indeed, be contemptuously denied by those whose

opinions or whose interests lie in another direction. Private investigations on such a subject are limited to the area which private means of action may be able to cover; and though, in the present case, they have been continued through years of intimate contact with all classes of French society, and though their results have been confirmed by the declarations of careful observers to whom they have been communicated for purposes of verification, they produce, after all, nothing more than individual statements, which it is not possible to advance authoritatively or to control effectively. But still, though it is not pretended that they offer conclusive proof, it is not unreasonable to claim for them such value as long questioning can create, such force as patient scrutiny can bestow.

There are, however, fortunately, certain essential points of the subject on which disaccord or discussion is not likely to arise, for they have already acquired the character of generally accepted truths. No one, for instance, whatever be his standpoint, will deny that active faith is growing rarer and feebler in France, and that a gradual but continuous diminution of the religious sentiment is occurring there. No one acquainted with the realities of French life will doubt that the men of the working classes, taken as a whole, have almost lost all religious convictions whatever. No one will seriously urge that what are called "practising" Catholic men can be found, in any appreciable number, outside the educated strata. And even within that limited circle, after excluding nine-tenths of the population from the calculation, it would be exaggeration to pretend that any important number of men retain a publicly avowed faith, that any serious proportion really "practise" religious forms. It is true that this situation is not limited to France—it is true that it extends, with slight variations of shape and of degree, to all the countries of Europe; but it is its existence in France which alone interests us here.

It is also clear to most lookers-on, that nearly the whole of the clergy of France, and a small but impetuous portion of the laity, are animated by a strong Ultramontane spirit; that is to say—in

order to define the sense in which the word Ultramontane is habitually used in France—with an intense desire to claim and to obtain for the Church and for its ministers a recognised right of action and interference in political, social, and worldly matters. The efforts which have been made of late years to bring the entire priesthood of France into one mould of thought have now borne such full fruit that almost all the younger and more energetic members of the clergy have joined the Ultramontane movement; while such of the bishops and older priests who formerly held out against it are giving way in appearance, if not in conviction, and no longer offer any opposition to it.

So far all observers will probably agree in substance; but at the next step in the description, difficulties may arise, for a thorough knowledge of the undercurrents of French life is needed in order to enable foreign spectators to perceive that, while the mass of the clergy, under the pressure of seminary teaching and of episcopal direction, has been growing towards Ultramontanism, the mass of the educated laity, under the pressure of public opinion, has been growing away from it. It needs close watching to enable us to recognise that believing Frenchmen are becoming more and more moderate in everything which lies outside strict faith: that while they resist the tendency to indifference or to active unbelief which fills the air around them, they are deeply pained and irritated by the aggressive attitude of the Ultramontane minority at their side. Influenced, as they cannot fail to be, by the generally progressive tone of the society in which they live, the greater part of the French Catholics regard religion, not as a state which provokes them to struggle for any political or special objects, but as a purely personal condition which they adopt and work out for their own satisfaction exclusively. Of course, there are many obvious exceptions; there are, manifestly, in France as elsewhere, enthusiasts who graft some outside purpose on to their faith. But, taking the Catholic gentlemen of France as a whole, it will certainly be recognised, by those who really know them, that their use of their religion does not generally stretch be-

yond the discharge of regular duties and the pursuit of their own moral amelioration. They hope that Ultramontanism is a passing accident, not a permanent principle of Catholicism; and that there may be some day, at last, a final separation between faith and politics.

This is the essential result of the personal inquiries which were alluded to just now. It is a result which may easily be denied, for it cannot be proved; it is a result which lies outside our ordinary touch, which can only be attained by long and careful personal research; but whatever may be said against it—however much it may be called false—it does express the truth of the situation to many earnest and honest watchers, who have sought patiently and anxiously for an insight into the true present condition of French opinion on the question. It shows a state of feeling which is very different from what is supposed by many foreigners to prevail in France; it stands out in absolute contradiction of the impression which exists in many minds, that Catholic France is, essentially, an ally of Ultramontanism. So far as it has been possible to ascertain the truth, for the purposes of this article, the truth lies directly the other way. There appears to be strong ground for confidently believing that, with the exception of the Legitimists, who support Ultramontanism because it fits in with their political ambitions, and of a small minority of excited Catholics who do not permit themselves to indulge a single idea which has not been previously ratified at Rome, the men who form the bulk of the Catholic body of France are heartily Liberal.

It must, however, be added at once, distinctly, that, with all this irritation as regards Ultramontane claims, no French Catholic who really is a Catholic would consent to abandon his faith, or to cease to be a dutiful son of the Church.

Whatever be the present difficulty of the struggle to unite dogmatic fidelity with absolutely independent thought on every subject which is not "of faith," nearly all moderate French Catholics are remaining Catholics. Some amongst them, it is true, are unable to withstand the pressure, and lose their faith altogether; but by far the greater part of them hold on steadfastly. Their obedience on matters of dogma is com-

plete and unrejecting, but it is neither blind nor unreasoning; and furthermore it is indisputably attended, in innumerable cases, by extreme sorrow that filial and dutiful affection should be subjected to the afflicting tests which Ultramontanism is now so ruthlessly applying to it. The old spirit of Gallicanism has left deep marks on France; the new spirit of social and political inquiry is gaining immense force there, not only amongst the lower classes, but in the upper circles too; and neither of those spirits is of a nature to allow men who are animated by them to abdicate free thought. On the contrary, the yearnings of the mass of Catholic Frenchmen are towards progress, not towards restriction—towards freedom of popular action, not towards the enforcement of clerical preponderance—towards the ennobling and enlarging of the human objects of life, not towards the concentration of those objects in the unquestioning acceptance of a politico-theological pretension.

Such is, according to carefully collected and wide-spreading evidence, the condition of a large majority of the Catholic men of France. It is not possible to determine, even approximately, the proportion of that majority, for no figures and no facts can be quoted with respect to it; but it does not appear to be unreasonable to guess, from the testimony accumulated, that they may perhaps constitute three-fourths of the whole. Their state is one of passive duty and of sorrowful obedience, coupled with an instinctive resolve to give up nothing of the love of social and political liberty, which has become the distinguishing mark of our time. And such being the situation of those men, is it not just to call them "moderate," and to draw a sharp line between them and the Ultramontane minority, which pretends that it alone represents the Catholic sentiment in its dealings with the outside world? It is essential to preface what is to be said here by asserting the existence of this great mass of honest Catholics; for though it has no voice in the matter of Ultramontanism—though it remains respectfully and mournfully silent—there is still a weight in numbers, which may perhaps some day exert its influence in this case as in others.

Of course, the Ultramontanes will not admit that three-fourths of the small total of practising Catholic Frenchmen have opinions of their own on every point on which they are not strictly tied down by dogma; but how are they to prove that the statement is false? No statistics exist of the state of consciences; private information and personal inquiry are open to one side as well as to the other: individual assertion is all that can be put forward; but, assertion for assertion, is it not altogether reasonable and in accordance with the great teachings and the general experience of our time, that the mass of Catholics should, like all other people, think for themselves on every point on which their conscience is free? Would it not be a manifest improbability, as well as an act of injustice to a class, to suppose that a system like Ultramontanism, which is purely political in its main characteristics, and which is in violent opposition to all the enlarging tendencies of the epoch, can be supported by more than a minority? The mass of Catholics most certainly do not support it. They do want to save their souls by doing their duty silently and quietly; they do want to preserve for Rome the direction of their faith and the spiritual control of the great body to which they belong; but they do *not* want to diminish, in any shape or degree, the political power, the political rights, or the political freedom, of Governments or of peoples. And this, whatever Ultramontanes may say to the contrary, appears to be the point of view of millions of earnest though suffering Catholics, not only in France, but throughout the entire Continent.

Of course, these Catholics claim for the Church the right of protesting, not only against irreligion, but also, subsidiarily, against such political principles as are direct products of irreligion. Without such a right, the direction of souls by the Church would be a mere illusion. But they limit that claim to theory, and recognise that its practice is surrounded, for the moment, by so many difficulties, that the greater part of the moderate group turn away from those difficulties in silence, and leave them to the future, in the hope that a different manner of dealing with them may arise

hereafter at the Vatican, and that what is now declared to be impossible may be found possible in coming time. The necessity of discovering and applying some practical working understanding between the Catholic Church and modern society appears to them to be so absolute and so indisputable, that, if they could do anything whatever in the matter, it is certain that their whole efforts and influence would be employed to obtain an immediate modification of the Ultramontane views, to which they are respectfully but most steadily opposed.

Unfortunately they can do nothing; their position condemns them to immobility; they remain in silence; they have no organisation, no organs, and no chiefs; they carry their non-intervention to such a point, that they encourage the Ultramontanes to assert that they do not exist. And yet, as we have already said and repeated, there is good reason for believing that it is they who constitute the true Catholic body of France. Some day this fact will be at last recognised; some day it will be seen that Ultramontanes, who are as noisy as Radicals, have not numbers behind them, and that the mass of Catholics stand steadily against them.

And to supply one more argument in support of this view, is it not fair to assert that the position described here is precisely that which would most naturally and most logically result from the long struggle which France has carried on against Ultramontanism? Is it not in the order of things that the French should be, of all the Catholic nations of Europe, the least inclined to favor Ultramontane theories? They know that no Government has fought so vigorously as their own against those theories, and that their history, for the last two hundred years, is full of combats against them. They know perfectly that, centuries ago, Ultramontanism was for a time a triumphant reality; that it once represented to France and to Europe not only the idea, but also the realisation, of a general public good—as public good was then comprehended; they know that it was then regarded as a legitimate expression of power and right. They know also that it gradually lost its position in the opinion of the world; that it became gradually sep-

arated more and more from the idea of public good; and that France had, in many ways, the largest share in destroying it—especially by the personal resistance of Louis XIV., and by the action of the Revolution and the Empire. They know that in the time of Pius VII. it was suppressed so thoroughly that Cardinal Gonsalvi was able to declare with truth that the Church "occupied itself exclusively with the salvation of souls and the spiritual good of nations." They know, too, that French events revived the Ultramontane theory, that it was partially resumed on the return of the Bourbons, and that the fears provoked by the Revolution of 1848 led to the attempt to once more apply it vigorously. But what they know best of all is, that this new effort has been made under conditions totally different from those in which the Church had found itself at any previous moment of its history; that the events of the last eighty years have changed the entire nature of the relations between Continental Governments and their peoples, as well as between the Church and Governments; that people now legislate for themselves, that they oblige their Governments to adopt their views, and that Governments have become powerless to enforce their will against the people; that the Church is consequently no longer face to face with Governments which have the power of dealing with it as they alone think fit, but with Governments controlled by legislatures, which legislatures are, in their turn, controlled by public opinion. Knowing all this, the French can see that the struggle of to-day is no longer, as it was in former days, a fight between the Ultramontane idea and a monarch or a minister; that it is now between that idea and nations as a whole—between it and the entire opinions, tendencies, and will of our epoch; that the circumstances of to-day are therefore new in history, and that they are rendered still more new by the simultaneous outburst of liberty and education; that Ultramontanism, which hitherto has had to treat with absolute sovereigns and ignorant populations, now finds itself at last face to face with powerless sovereigns and intelligent populations; that it can no longer appeal to single men, to personal ambitions, or to individual

fears, but that it has to-day to come to terms with societies as a whole, with societies in all the emotion of newly-acquired rights, agitated by throbbing opinions and by ardent claims. They see all this; and yet it is with this spectacle before their eyes,—it is in this new state of public life—in the midst of this effervescence, after the whole conditions of existence have been changed,—that Ultramontanism is thrust again before them, and that they are asked to once more accept an obsolete political system which was only rendered possible centuries ago because there were no books, no newspapers, no liberty, and no opinion.

Surely it is reasonable to urge that the entire probabilities of the position are against the acceptance of such a system. Surely those probabilities may be referred to in confirmation of the opinions which have been expressed here. Surely they are of a nature to support the assertion that, whatever small minorities may say to the contrary, the Catholics of France are not, and are not likely to become at any future time, allies of Ultramontanism. Not one-hundredth of the nation, taken as a whole, is now in favor of it.

And yet Ultramontanism is, at this moment, one of the greatest and the most immediate of the perils of France—as great and more immediate than the much-talked-of Radicalism. Its supporters, though so few in number, though regarded with keen suspicion by nearly all their fellow-countrymen, and with bitter hatred by a good many amongst them, are rich, high-placed, energetic, and astute; they possess the advantages of position, wealth, birth, and intelligence. But they are using these powers to disturb the interior peace of the country, and, what is just now infinitely graver, its international position too. They do not represent a force, but they incontestably constitute a danger. They are powerless to lead France to any effective action, but they divide her against herself and place her before her neighbors as a menace. The movement which they have undertaken will end in nothing, for the mass of the French people is publicly and resolutely opposed to it; but, so long as it continues, it will create difficulties between France

and other countries, it will embitter the political struggle at home, and it will be a cause of pain and trial to the immense majority of French believers.

It is the main stumbling-block in the road of the moderate Catholics of France, for direct attacks against their faith affect them but little: they suffer from the exaggerations of their own party, not from the onslaughts of avowed enemies. Religion and irreligion are two conditions which stand apart in France; they both are active states, but yet they manage to avoid any struggle with each other in daily life. The members of the two bands move side by side in constant contact; but, in ordinary times, they keep their opinions to themselves and have no personal quarrels. The indifferent form a third class around and amongst them, but not one of the three seriously attempts to act upon the others. The fight between them is public and political, it has no existence in private. Each man follows his own road with that perfect independence of his neighbor, that absolute freedom of individual action, which cast so much simplicity and so bright an atmosphere of social liberty over the life of the French. For this reason the bearings and the functions of irreligion in France might almost be left outside the present subject. But, though it is producing no perceptible effect on the ways and thoughts of the fraction of the nation which still holds to and practises a creed, another and a larger portion is, on the contrary, keenly animated by it. On that portion the effect of its working is manifest and vigorous, for the situation of the country has had the effect of attributing such exceptional importance to the collective public action of French irreligion, that it incontestably exhibits to us the most acute and the most energetic of the contemporary phases of the combat between belief and unbelief. The forms of French incredulity are substantially the same as those which offer themselves elsewhere; but its results are special, for they almost invariably lead the unbeliever, whatever be the causes of his unbelief, to become a political partisan and to join the attack against "clericalism." Indeed it is but natural that, in the face of such a political provocation as Ultramontan-

ism presents, the other side also should give to their resistance a political form. We see the consequence in the curious fact that irreligion in France is becoming more and more a bond of organised political union, and less and less an individual condition affecting a particular person, or the society in which particular persons live. Irreligion leads Frenchmen to vote at an election for one candidate rather than for another, but it has extremely little influence on the separate or the social position of the man. It cannot, therefore, be too often repeated, that in France, unbelief, though a purely personal state, constitutes a purely political force, and that it possesses scarcely any social characteristics or influences. Its action on society is practically null. Unbelievers are as well-behaved as believers; they are good fathers, honest men, and obedient citizens; they are not disturbers of the peace in any shape whatever. When it has been said of them that they do not go to Mass, and that they oppose the claims of the Church to interfere in politics, nothing more can be laid at their door as regards their external performances. French infidelity is to-day in its personal aspects, a calm condition which shocks nobody; but politically it is growing into a force.

Thus far every word that has been employed has been applied to men—to men alone. Now let us turn to women. Through them we shall get on at last to the home-life side of the question.

The women of the Christian races are intuitively believers; negations offend their instincts; the nature of their education frequently suppresses in them the critical faculty; scarcely any of them have either the courage or the need to think out a faith for themselves; whatever be their land, their color, or their tongue, nearly all of them hold fast to the idea that religion is a necessity for women. It is so in France, as elsewhere; and for this reason we find the nation divided, religiously, into two great classes, men and women, almost as distinct in faith as they are in sex. Here it is that we find, conspicuously, the issues of the two great conflicting forces which were indicated at the commencement of this article—the power of the present and the power of the past:

the men, as a mass, are under the dominion of the present, with its doubts; the women, as a mass, are still under the grasp of the past, with its faith.

The women of France, taken as a group, are gentle undoubters, rather than ardent believers. There are amongst them, particularly in the higher classes, superb examples of passionate and ecstatic enthusiasm. There are amongst them all the varieties and all the degrees and shades of devotion; but the mass of them are calmly and moderately pious people, neither curious nor learned, performing each of their spiritual obligations with temperate regularity, as a function which nothing could induce them to neglect, partly because it involves a recognised and accepted responsibility, very much because it supplies them with a pleasure and with the gratifying sentiment of liabilities discharged. Their religion is at once an occupation, an allegiance, and a gladness. It supplies to them a solace, a duty, and a joy. It does not, usually, exalt their intellectual faculties, but it both stimulates and contents their fealty, their conscience, and their heart. As Catholicism is, essentially and fundamentally, a creed of love; as no Christians love God—in the sweet, soft, familiar sense of love—as Catholics do; so also are Frenchwomen indisputably the tenderest of Catholics. A thoroughly religious Frenchwoman supplies the most striking example of Catholic affection that the earth can show. Her inborn impressibility, her peculiar naturalness and simplicity of motives, her unchecked outpouring emotionality, her constant longing for satisfaction of the sympathies, her vague but unceasing yearning for sensations, her very disposition to play a *rôle* and to act a part, most of her qualities and even some of her faults—all these find contentment in religion. But the contentment is in most cases instinctive. It is perceptive, not objective—felt, not reasoned. Frenchwomen handle their religion with intimacy, with fondness, with caresses; they treat it as a faithful friend whom they can thoroughly trust, with whom they can talk over their sorrows and their delights, and who is too nobly unselfish, too grandly sincere, to be offended

by occasional negligences or momentary forgettings.

Of course, there are numbers of varieties; of course, there are quantities of women in France who have no faith at all; of course, there are crowds of others who are pleasantly careless about the entire subject. There are also thousands who attain exalted sanctity, and who wait for death in enraptured enthusiasm. But the majority are such as have been just described,—tender, loving, honest women, clinging tightly to religion as a cherished companion, clinging to it for its own sake, and also for the sweet excitement with which it provides them. At the same time, it cannot be denied that, notwithstanding the universality and the accessibility of its succors, religion is nevertheless, in France as elsewhere, somewhat of a class luxury; and that its intenser and more prolific growths are, for the greater part, a monopoly of the higher ranks of Frenchwomen. There are exceptions, of course, at both ends of the scale; but, speaking generally, the poor scarcely ever get beyond the elementary emotions of religion. Very few of them are prepared by teaching or are fitted by position to attain its more fervid and more passionate developments; and though the object and the interest with which they pursue it may be substantially identical with those of the more ardent women above them, they have neither the leisure, the training, nor the imagination which are essential for distilling out its full perfumes. Women who have to earn their own bread find it difficult to indulge in the elevating stimulations which are induced by the practice of the culminating forms of Catholic piety. Labor stifles unction. The result is, that though the wives and daughters of the working men of France have infinitely more faith than their husbands and their fathers, still the usual fashioning of their practice remains incomparably less finished than that of women of the better-educated and richer classes. It might, indeed, be almost asserted, that the active sentiment of feminine religion, and the eagerness of its dilating aspirations, gain strength in France in a ratio corresponding to the rise of social position. There

are, it must be repeated, most numerous exceptions in every grade; but it may be said with safety that, as a rule, the dry bread of religion is all that the mass of women of the lower strata can manage to consume—and that its more delicate aromas, its subtler tastes, its more exciting savors, its more intoxicating fragrances, are the almost exclusive privilege of the idle. And yet the women of France, taken as a whole, are a very Christian race.

The general state of religion throughout the land may be roughly summed up as follows. On the side of the men, the lower and lower-middle sections live in a general unbelief which presents all the conceivable shades of irreligiousness, from mere thoughtlessness to bitter, active, militant hatred of religion, as a detested enemy. In the middle and upper divisions of society faith is, relatively, frequent; it is not general, but its acceptors constitute a recognisable minority. There is a good deal of scientific or philosophic atheism, and a still larger proportion of indifference; but the professing Catholics count for something in the country, the mass of them being nineteenth-century Christians, with a small portion of ardent Ultramontanes thrown in around them. With the women, on the contrary, religion may be said to be really, not relatively, general. In their case it is the minority which is unconcerned, which raises difficulties and puts questions. Amongst the poor, in town and country, there is naturally plenty of callousness; but there is also a vast deal of simple, patient, unreflecting, trustful faith, rising rarely to strong emotion, but remaining absolutely untouched by doubt, because it has nothing to do with reason. In the upper strata, on the contrary, doubt is found, for there the intellectual forces come into play. Still, the educated Frenchwoman feels almost always an irresistible need of a creed which guides, of a doctrine which lights up, of a sentiment which warms, arouses, and cements together her affections, her aspirations, her imaginations, and her convictions. She finds all this in the practice of Catholicism; and she throws herself into it with the eagerness of a fond woman, of an excited artist, and of a hoping soul.

And now, after this attempt to roughly sketch the present situation of the religious sentiment in France, let us try to go further, and to measure the working and the influence of that sentiment on the life of the people.

The first symptoms which offer themselves to the observer would seem to indicate, if taken alone, that religion is exercising very little appreciable action on that life. It appears, to the casual beholder, to lie outside the march of the visible occupations and the ordinary thoughts of the nation; to occupy a place by itself, away from everyday concerns; to direct its workings, its teachings, and its efforts to other objects than the guidance and the amelioration of existence in common. The signs of its operation are essentially personal and private; they have scarcely any public aspects; they must be looked for behind and apart from the active movements of society; they are hidden out of sight in hearts. The religion of the French—of those amongst them, that is, who have any at all—is, like family affection, a sentiment which is usually kept to themselves by those who feel it; it is an unaffected, simple, natural expression. Its marked tendency is to be modest and quiet: it does not thrust itself forward in the market-places; it does not cry out in the streets; it does not advertise its existence in newspapers.

But the absence of demonstrative obtrusive godliness is compensated for most efficiently and advantageously by silent forms of devotion, by frequent visits to church, by constant, reverential intercourse with the love-arousing mysteries of Catholicism. Close examination proves that a good many of these light-hearted people, whose religion is rarely easy to be perceived by Englishmen (partly because it is generally kept out of sight, partly because its shapes and fashions are so unlike those to which they are accustomed at home that they have difficulty in recognising them), are, in reality, occupied by a singularly elevating type of devotion. And yet nobody says one word about it. Religious practices, even when passionate and absorbing, even when perpetual and profound, are regarded in France as the private affair of each one, and not as the business of the community at large.

The French, as a rule, do not, like some of their neighbors, regard their religion as a duty which they wish other people to see them perform. On the contrary, it stands distinctly before them as a responsibility which is strictly proper to each believer separately. It is not, in their eyes, an obligation to be discharged in public as a satisfaction of vanity; they view it as a sweet private comforter, as a secret gladness which they cherish for themselves alone, which they fondle in delightful solitude in their hearts. Each one of them treats it as a personal feast, and handles it as a self-belonging delight. Even when rough winds begin to blow—even when, in trial or in pain, they turn to it as a beacon or a compass, and seek to use it as a breakwater, a refuge, or an anchor,—even then it retains, in the majority of cases, its character of an individual resource—even then it preserves its marked idiosyncrasies of tender intimacy, of the affectionate sentiment of specific possession. At no time does it fall into the position of a mere general right or of a social property.

It is for these reasons that it is so difficult to discover demonstrations of the influence of religion as a patent national fact in France. Ultramontanism, of course, shows glaringly before us, with its purely political objects; official religion is there too, with its budget, its hierarchy, its schools, its convents, and its institutions: but of the comprehensive public action of religion as a sentiment—of the working of religion properly so called—of the religion which moralises, cheers, and brightens—we can detect scarcely any out-of-door signs. Just as irreligion manifests its effective national action in a public and political shape, so, in contradistinction, does religion produce its fruits in a purely private and individual form.

But if religion has so little footing in France as a visible external force, it constitutes, on the other hand, an indoor power of distinctly tangible effect. The very individuality and affectionateness of action which deprive it, in so great a degree, of the faculty of collective pressure on the people at large, bestow upon it an ample and a real ascendancy in homes. At firesides it takes a foremost place amongst the sovereignties which

rule the life of France. Here, at last, we find it manifestly at work; here, at all events, we can seize hold of it, and can try to see what it is doing for this generation.

The attempt is not very difficult. Provided we limit ourselves to the general outlines of the picture, omit all exceptions (save one), and resist the temptation to take individual cases as average examples, the main facts of this part of the situation are relatively easy to ascertain. No one can fail to recognise, for instance, after a little inquiry, that, in the vast majority of cases, without distinction of rank, all children are submitted to the action of religion. The feelings of parents, whatever those feelings may be, scarcely ever prevent children from receiving some sort of religious teaching. Of the upper classes it is surely needless to say anything; a well-born child would be ostracised amongst its play-fellows, and even be disgraced for life, if its parents failed to send it to the catechism-classes at which the young are prepared for their first communion by special instruction extending over two or three years. In the country districts the same rule applies, with nearly the same rigor: a boy or a girl who fails to make a first communion is pointed at and pitied. And even amongst the combatantly unbelieving workmen of the towns,—even amongst those very Radicals who are accused, by some of their fellow-country men, of an inclination to burn the churches and to shoot the priests—we find that an analogous feeling exists in curious abundance. There are, of course, exceptions; but, considering the hostility to religion which is so widely prevalent amongst the men of the lower classes, these exceptions are, proportionately, few in number. It is calculated by the clergy that, on an average, about nineteen-twentieths of the children in the country, and about five-sixths of those in the towns, are sent in, at twelve years old, for their first communion. If this estimate be correct, it would follow that, out of a male population of which a considerable majority admits no religious opinions whatever, and of which a notable portion is apparently animated by bitter animosity against the Church, only a small portion carries its opinions

to the point of preventing its children from coming into contact with spiritual instruction.

The fact is strange. It shows that many fathers in the working classes adopt for their children a line of action different from that which they personally pursue, and that very few of them, comparatively, accept the responsibility of allowing their children to grow up without some instruction in, and some practice of, that religion which, in their own case, they profess to despise and to attack. Does it not seem fair to attribute this contradictory attitude to a latent action of religion in themselves? Does it not look as if they, like most other French fathers, are unable to resist its influence when brought to bear upon them in a true home form? Out of doors, in their own individual proceedings, they scoff at it, insult it, menace it; but when it comes before them as an accessory of the education of their children, when it presents itself to their eyes as a family observance, when it holds out its hand to their own boy and girl, then they find something in their hearts which prevents themselves from shutting the door in its face. In spite of their loudly-declared mistrust and disdain, they allow their children to answer its call.

Surely there is something here which merits to be considered. If men who proclaim that they hate religion, and who act in many ways as if they really did hate it, can be led to suspend their hate, and to accept contact with the hated object directly it makes a sign of friendship to their offspring, it becomes difficult to admit that their hate can be as deep and positive as they pretend. We cannot help asking ourselves, in the face of such a situation, whether a hate which can be laid aside for a moment in deference to one touching consideration, could not be further stayed by the application of other similarly acting motives—whether the temporary could not be rendered lasting? The answer raises issues which cannot be dealt with here; they are too vast. All that can be done, in the space at present disposable, is to point to the fact which lies here before us; to the thought suggested by it that the mass of the French people cannot be, after all, entirely unsusceptible of religious emotion; to the consequent prob-

ability that it may still be reached through certain channels of attack; and to seeming certainty that, if all the rest be true, the road to follow lies through the heart. It cannot be seriously pretended that, with a religion which is essentially a tenderness, and with a nation of which all the members are, theoretically, equal in their natural capacities of tenderness, the faculty of feeling that religion ought to be, as it now virtually is, amongst the men of France, an affair of class. Of course we know that it is developed in the higher strata by the combined influences of comfort, of softening education, of social habit, and of exercised perceptions. We also know that it is suffocated below by ignorance, by suffering, and by political teaching. But with the evidence we have here that it can be partially reawakened by an appeal to the sentiment of paternity, it seems reasonable to imagine that a good deal more might be effected if the indication thus supplied were utilised with tact. If the priest is ever to acquire amongst the laboring men of France the position and the power of a trusted friend, of an inspirer of elevating thoughts, of a real moraliser, he must begin by changing his own attitude, by ceasing to act as an Ultramontane agent, by doing everything for religion as a system of love, and nothing for it as a system of politics.

This is all that can be said upon the subject here. And yet one word more may usefully be added—we can scarcely go on accusing of really dangerous Radicalism a set of men who send their children to their first communion.

Nearly all the boys and girls of France experience, then, in the middle of their childhood, the deep emotion which a first communion awakes even in the most careless heart. The effect wears off with time; the religious impress which it provokes rarely retains its first intensity against the hardening contacts of outside life; in many cases—in most cases, indeed—it disappears altogether; but in its home influence, in its character as a family event, in its special operation as creating a new bond between old and young, it preserves unweakened its position in French existence. The portrait of the daughter in her long white veil and frock, of the son in his white

trousers and *brassard*, hangs in the cottage and the chateau; and with sweet remembrances, with undefinable impressions of purity, with unwontedly lofty thoughts of love, the mother gazes at it and feels unfadingly that the day of which that portrait is a record has left an ineffaceable mark in her heart. How, indeed, could she forget it? for it represents to her the moment at which her child achieved its first acceptance of responsibility, its first public discharge of comprehended and acknowledged moral action.

It may be said with tolerable exactness that these deep-working thinkings are common, in varying degrees, to nearly all French mothers, without distinction of rank, and that consequently the great majority of the women pass successively through them. And yet, in spite of the vigor and the alluringness of the sensations which they so generally arouse, it can scarcely be alleged that they help, as a rule, to render the women who are subjected to them more permanently, more solidly religious, in the practically applied sense of the word. Like most of the other elements of spiritual ardor in France, they seem to produce effects in the sentiments rather than in the conduct. They undoubtedly make the mother even more passionately fond than she was before; they evidently provide her with glowing emotions and with delicious memories; they incontestably establish a fresh tie between her child and herself: but it would be difficult to pretend that they habitually convert her into a better woman. And this brings us to the moral of the subject, for it leads us, naturally, to inquire whether these women really gain in character, in duty, and in attitude towards others, by the charming affectionateness of their religionism.

Such a question can only be answered by international comparisons; and comparisons of that sort are not always easy to effect impartially. Let us remember, however, that many competent travellers appear to arrive at the conviction that, much as the shapes and natures of feminine merits and defects may vary about the world, the totals presented by their respective additions in each Christian land come out everywhere in remarkable equality with each other. And let us

recognise that there is in this conviction a *prima facie* argument against the probability of the possession of any appreciable superiority of moral and religious worth by the women of any particular race whatever. This being so, the Frenchwoman can scarcely be offended if she is counted to be as good as, but no better than, everybody else, and to be no more capable than her neighbors of extracting particular virtue from the religion which she practises. She evidently gets more pleasure out of it than others do; for, as she feels immensely, she frequently attains, as a natural result of her peculiar aptitude for emotions, a variety of spiritual joys which do not seem to be generally accorded to women of other creeds, or even to Catholic women of other lands. But it cannot be pretended that she climbs higher than those others; that she is either gentler, truer, more self-sacrificing and more trustable than they. She furnishes one proof more that the capacity of feeling religion with ardor does not necessarily bestow upon us any exceptional power of curing our personal faults. Religion does help her undeniably to become a most admirable mother; it fortifies and increases her innate disposition towards works of charity; but there is very little satisfactory evidence to show that it assists her more than other women in the ordinary functions and relations of life—that it aids her to become a better daughter, wife, or friend. Religion succors her interiorly, not exteriorly; it soothes, it satisfies, it encourages, or it excites her. But it seldom seems to particularly enlarge her capacity for self-reform.

It ties her to her home, though. It serves extraordinarily there, for there its glowings can be effectively translated without exertion into meritoriously profitable acts. No virtuous effort is needed to enable a woman to love her parents, her husband, and her children as a duty, provided she already loves them as a joy; the consciousness of having amalgamated joy and duty, doubles indeed the value of each.

In this fashion it is that religion strengthens and develops the home ties of France. Not only does it fortify and encourage, not only does it sanctify and hallow, but, furthermore, it decorates

duties, adorns labors, and throws pleasure over pains. It does not show itself in chilly ceremonies in French houses; there are no conventional formalities about it; there are no cold household prayers (excepting in infinitely rare cases), no gloomy Bible-readings, no dismal psalm-sings, no affectations of austere piety before the servants, no sanctimoniousness, no cant. But great quantities of women (and some men) go each day to Mass—often in the earliest morning—and tens of thousands of them never pass before the always-open churches without going into them for two minutes to say a whispered prayer, and to reap the privilege of entering the immediate presence of God; and all of them habituate their children to the same soft touching customs, and to the exalting sensations which these customs arouse. And all this is done so naturally and so simply, so cordially and so heartily, that there is no oppression and no *ennui* about it: with these women religion is neither a show nor a mask. Neither is it so with such of the men as “practise;” for the reason, that as it is easy and usual for a man to have no religion at all, no purpose can be served, and no advantage gained, by merely pretending to have it.

It is, then, in its power of gilding indoor obligations, of creating new forms of linkings in families, of illuminating and inspiring the fireside, that religion produces its realest, sweetest, and most evident effects in French homes. It is essentially, in this as in its other social aspects, a brightener rather than an improver, a cheering friend rather than a teaching master, an allurement rather than a behest.

But there is one exception—the one exception which was reserved when we began just now to talk of the action of religion on home life. There is one actual form of French religious sentiment in which bitterness, violence, and uncharitable hate replace the delighting exaltations of mere simple, joyous piety, in which human passions drive out spiritual enthusiasms, in which politics suppress Christian generosity. That form is Ultramontanism.

Just as it has been easy to describe, in large round lines, the main external characters of the tender loving faith of

the ordinary woman of France, so is it difficult, if not indeed impossible, to select words which would accurately convey a sense of the fierce contempts, the wrathful enmities, the unpardonable abhorrences, which animate a large proportion of those other women who, by birth, by position, or by social affectation, belong, or pretend to belong, to the Ultramontane group. The men of this set are violent enough in their bitter hostility to all who do not think like them; but the women are immeasurably more excited and destructive. Families are at this moment being broken up, ancient friendships are being crushed out, new hates are supplanting old affections,—all this because a certain number of French gentlemen and ladies have adopted a particular form of politico-religious opinion, and will permit nobody who has the honor of approaching them to express in their presence, or even to silently entertain, any sentiments which differ from their own. It must, however, be added at once, that the particular ferocity of tone and attitude which is at this moment so painfully prominent in Ultramontane drawing-rooms, is, in great part at least, a product of the special agitation which has been at work since the 16th May. It is an exceptional, not a normal state. The Ultramontanes form always a band apart; they are always unquiet, irritable, and impetuous; but they are not, habitually, so strangely raging as they are just now. Under the best of circumstances the ladies of the party do not generally present to the spectator the pleasant pictures of religious manner which many other women offer; but it is just to them to recognise that their actual exasperation is altogether unprecedented, and that, for that reason, it may perhaps be only temporary.

Here must end this slender sketch; but it is scarcely possible to quit the subject without a glance at one other of its elements, without a brief allusion to the influence of the clergy; for it has been indignantly asserted by Michelet, and by other writers of his school,—it is now again asserted, with equal indignation, by writers in the Radical press,—that the priest is constantly exercising a disastrous predominance on families, and that the home life of France is

poisoned by the insidious but irresistible power of "the men in black."

Now it may possibly be that there really are some families in which the confessor does wield a veritable control; but, all the same, there are singularly few observers who, in all their memory, can find an undeniable example of such a case. Most women and children go, more or less often, to confession. So do some men. But the relations of these persons with their confessor are habitually limited to the confessional; at the most do they, in infrequent cases, exchange an occasional visit. The longest and most widespread knowledge of French life fails usually to supply evidence of the single direction of a family by a priest. Not only do women habitually and instinctively shrink away from the influence of a stranger, whoever he be, in their private concerns, but, furthermore, the priest is scarcely ever personally capable of obtaining such an influence. The mass of the French clergy is composed of well-intentioned, worthy, laborious men, who do their duty, more or less mechanically, within certain clearly-defined limits which nobody would permit them to exceed, even if they wished to do so. They are generally men of no initiative, of no inventiveness, and of little tact; not one in fifty thousand of them is capable of playing, even if opportunity occurred, the wonderfully able and prodigiously difficult part which is so liberally attributed to

the "Jesuit confessor" in Protestant novels and in Radical newspapers. Their own incapacity, their want of manners, their narrowness of views, suffice alone to shut the door against any efforts of the kind. They live apart from the nation, quietly and rather stupidly, but usefully, with an evident desire to interfere awkwardly in politics, if they find a chance, but with no desire whatever to meddle in households, because they know they cannot. It is ridiculous to pretend that such men offer, or are capable of offering, the very faintest danger to society. There are of course in so large a body many high-bred gentlemen, many graceful scholars, many thinkers of elevated intellect; there may be even here and there amongst them some schemers or some intriguers; but the immense mass of them are even-going unambitious nullities, to whom it suits the political purposes of the Radicals to attribute profound conspiracies which they are hopelessly incapable of either conceiving or executing.

The influence of religion in the home life of France lies virtually outside the action of the clergy; it assumes a personal form which is special to the country; it is one of the brightest of the many brightening causes that are at work there; and no true friend of France can fail to wish that that influence may extend and multiply.—*Blackwood's Magazine*.

FAREWELL TO VENICE.

BY ALFRED DAWSON, M.A.

FAREWELL to thee, Venice! though faded thy glory,
Thou crownest the waters which bear me away;
Though nought of thy greatness remains but in story,
Thou art noble and fair in thy silent decay.

Thy palaces bath'd in the moonlight admiring,
I see thee still young, as my bark glides along.
Thou wilt still be, as ever, bright memories inspiring,
The dream of the bard, and the theme of his song.

Deserted those balconies, where thy fair daughters
At evening oft leant on the light balustrade;
And their soft bosom heaved as they looked on thy waters,
For they heard a loved tone in the sweet serenade.

Thy dark winding channels are vocal no longer,
Hush'd is the music, and ended the strain.
But than the dull present bright fancy is stronger,
And makes me still dream that I hear it again.

Again from yon gallery, o'er rich marble tracing
By the shimmering moonbeam regilded and bright,
I see, drooping sad—and now pensively pacing,
A form young and fair in the silvery light.

When the dayspring relentless with pace unabating
Arises, that fairy-like vision is flown.
The maiden who waited no longer is waiting,
The gallery is ruined, deserted, and lone.

Then fare thee well, Venice! by moonlight retiring,
I sigh thus to part as my bark glides along.
Thou wilt still be, as ever, bright memories inspiring,
The dream of the bard, and the theme of his song.

Temple Bar.

MACLEOD OF DARE.

BY WILLIAM BLACK, AUTHOR OF "MADCAP VIOLET," "A PRINCESS OF THULE," ETC.

CHAPTER I.

THE SIX BOYS OF DARE.

THE sun had sunk behind the lonely western seas; Ulva, and Lunga, and the Dutchman's Cap had grown dark on the darkening waters, and the smooth Atlantic swell was booming along the sombre caves; but up here in Castle Dare—on the high and rocky coast of Mull—the great hall was lit with such a blaze of candles as Castle Dare had but rarely seen. And yet there did not seem to be any grand festivities going forward; for there were only three people seated at one end of the long and narrow table; and the banquet that the faithful Hamish had provided for them was of the most frugal kind. At the head of the table sat an old lady, with silvery-white hair and proud and fine features. It would have been a keen and haughty face but for the unutterable sadness of the eyes—blue-grey eyes under black eyelashes, that must have been beautiful enough in her youth, but were now dimmed and worn, as if the weight of the world's sorrow had been too much for the proud, high spirit. On the right of Lady Macleod sat the last of her six sons, Keith by name, a tall, sparely-built, sinewy young fellow, with a sun-tanned

cheek and crisp and curling hair; and with a happy and careless look in his clear eyes and about his mouth that rather blinded one to the firm lines of his face. Glad youth shone there; and the health begotten of hard exposure to wind and weather. What was life to him but a laugh, so long as there was a prow to cleave the plunging seas, and a glass to pick out the branching antlers far away amid the mists of the corrie? To please his mother, on this the last night of his being at home, he wore the kilts; and he had hung his broad blue bonnet, with its sprig of juniper—the badge of the clan—on the top of one of the many pikes and halberds that stood by the great fireplace. Opposite him, on the old lady's left hand, sat his cousin, or rather half-cousin, the plain-featured but large-hearted Janet, whom the poor people about that neighborhood regarded as being something more than any mere mortal woman. If there had been any young artist among that Celtic peasantry fired by religious enthusiasm to paint the face of a Madonna, it would have been the plain features of Janet Macleod he would have dreamed about and striven to transfer to his canvas. Her eyes were fine, it is true: they were honest and tender; they were not un

like the eyes of the grand old lady who sat at the head of the table; but, unlike hers, they were not weighted with the sorrow of years.

"It is a dark hour you have chosen to go away from your home," said the mother; and the lean hand, resting on the table before her, trembled somewhat.

"Why, mother," the young man said lightly, "you know I am to have Captain ——'s cabin as far as Greenock; and there will be plenty of time for me to put the kilts away, before I am seen by the people."

"Oh, Keith!" his cousin cried—for she was trying to be very cheerful too. "Do you say that you are ashamed of the tartan?"

"Ashamed of the tartan!" he said, with a laugh. "Is there any one who has been brought up at Dare who is likely to be ashamed of the tartan? When I am ashamed of the tartan I will put a pigeon's feather in my cap, as the new *suaicheantas* of this branch of Clann Leoid. But then, my good Janet, I would as soon think of taking my rifle and the dogs through the streets of London as of wearing the kilts in the south."

The old lady paid no heed. Her hands were now clasped before her. There was sad thinking in her eyes.

"You are the last of my six boys," said she, "and you are going away from me too."

"Now, now, mother," said he, "you must not make so much of a holiday. You would not have me always at Dare? You know that no good comes of a stay-at-home."

She knew the proverb. Her other sons had not been stay-at-homes. What had come to them?

Of Sholto, the eldest, the traveller, the dare-devil, the grave is unknown; but the story of how he met his death in far Arizona came years after to England, and to Castle Dare. He sold his life dearly, as became one of his race and name. When his cowardly attendants found a band of twenty Apaches riding down on them they unhitched the mules and galloped off; leaving him to confront the savages by himself. One of these, more courageous than his fellows, advanced and drew his arrow to the barb: the next second he uttered a yell, and rolled from his saddle to the ground,

shot through the heart. Macleod seized this instant, when the savages were terror-stricken by the precision of the white man's weapons, to retreat a few yards and get behind a mesquit tree. Here he was pretty well sheltered from the arrows that they sent in clouds about him; while he succeeded in killing other two of his enemies who had ventured to approach. At last they rode off; and it seemed as though he would be permitted to rejoin his dastardly comrades. But the Indians had only gone to windward to set the tall grass on fire; and presently he had to scramble, burnt and blinded, up the tree, where he was an easy mark for their arrows. Fortunately, when he fell, he was dead: this was the story told by some friendly Indians to a party of white men, and subsequently brought home to Castle Dare.

The next four of the sons of Dare were soldiers, as most of the Macleods of that family had been. And if you ask about the graves of Roderick and Ronald, what is one to say? They are known, and yet unknown. The two lads were in one of the Highland regiments that served in the Crimea. They both lie buried on the bleak plains outside Sebastopol. And if the memorial stones put up to them and their brother officers are falling into ruin and decay—if the very graves have been rifled—how is England to help that? England is the poorest country in the world. There was a talk some two or three years ago of putting up a monument on Cathcart Hill to the Englishmen who died in the Crimea; and that at least would have been some token of remembrance, even if we could not collect the scattered remains of our slain sons, as the French have done. But then that monument would have cost £5000. How could England afford £5000? When a big American city takes fire, or when a district in France is inundated, she can put her hand into her pocket deeply enough; but how can we expect so proud a mother to think twice about her children who perished in fighting for her? Happily, the dead are independent of forgetfulness.

Duncan the Fair-haired—Donacha Ban they called him far and wide among the hills—lies buried in a jungle on the African coast. He was only twenty-

three when he was killed; but he knew he had got the Victoria Cross. As he lay dying, he asked whether the people in England would send it to his mother, showing that his last fancies were still about Castle Dare.

And Hector? As you cross the river at Sadowa, and pass through a bit of forest, some corn-fields begin to appear, and these stretch away up to the heights of Chlum. Along the ridge there, by the side of the wood, are many mounds of earth. Over the grave of Hector Macleod is no proud and pathetic inscription such as marks the last resting-place of a young lieutenant who perished at Gravelotte—*Er ruht sanft in wiedererkämpfter Deutscher Erde*; but the young Highland officer was well-beloved by his comrades, and when the dead were being pitched into the great holes dug for them, and when rude hands were preparing the simple record, painted on a wooden cross, "*Hier liegen—tapfere Krieger*," a separate memento was placed over the grave of Under-Lieutenant Hector Macleod of the —th Imperial and Royal Cavalry Regiment. He was one of the two sons who had not inherited the title. Was it not a proud boast for this white-haired lady in Mull that she had been the mother of four baronets? What other mother in all the land could say as much? And yet it was that that had dimmed and saddened the beautiful eyes.

And now her youngest—her Benjamin—her best-beloved—he was going away from her too. It was not enough that the big deer-forest, the last of the possessions of the Macleods of Dare, had been kept intact for him, when the letting of it to a rich Englishman would greatly have helped the failing fortunes of the family; it was not enough that the poor people about, knowing Lady Macleod's wishes, had no thought of keeping a salmon-spear hidden in the thatch of their cottages. Salmon and stag could no longer bind him to the place. The young blood stirred. And when he asked her what good thing came of being a stay-at-home, what could she say?

Suddenly old Hamish threw wide the oaken doors at the end of the hall; and there was a low roar like the roaring of lions. And then a young lad,

with the pipes proudly perched on his shoulder, marched in with a stately step, and joyous and shrill arose the Salute. Three times he marched round the long and narrow hall, finishing behind Keith Macleod's chair. The young man turned to him.

"It was well played, Donald," said he, in the Gaelic, "and I will tell you that the Skye College in the old times never turned out a better pupil. And will you take a glass of whisky now, or a glass of claret? And it is a great pity your hair is red; or they would call you Donull Dubh, and people would say you were the born successor of the last of the MacCruimins."

At this praise—imagine telling a piper-lad that he was a fit successor of the MacCruimins, the hereditary pipers of the Macleods!—the young stripling blushed hot; but he did not forget his professional dignity for all that. And he was so proud of his good English that he replied in that tongue.

"I will take a glass of the claret wine, Sir Keith," said he.

Young Macleod took up a horn tumbler rimmed with silver, and having the triple-towered castle of the Macleods engraved on it, and filled it with wine. He handed it to the lad.

"I drink your health, Lady Macleod," said he, when he had removed his cap, "and I drink your health, Miss Macleod; and I drink your health, Sir Keith; and I would have a lighter heart this night if I was going with you away to England."

It was a bold demand.

"I cannot take you with me, Donald; the Macleods have got out of the way of taking their piper with them now. You must stay and look after the dogs."

"But you are taking Oscar with you, Sir Keith."

"Yes, I am. I must make sure of having one friend with me in the south."

"And I think I would be better than a collie," muttered the lad to himself, as he moved off in a proud and hurt way towards the door, his cap still in his hand.

And now a great silence fell over these three; and Janet Macleod looked anxiously towards the old lady, who sat unmoved in the face of the ordeal through which she knew she must pass.

It was an old custom that each night a pibroch should be played in Castle Dare in remembrance of her five slain sons; and yet on this one night her niece would fain have seen that custom abandoned. For was not the pibroch the famous and pathetic *Cumhadh na Cloinne*, the Lament for the Children, that Patrick Mòr, one of the pipers of Macleod of Skye, had composed to the memory of his seven sons, who had all died within one year? And now the doors were opened, and the piper-boy once more entered. The wild, sad wail arose; and slow and solemn was the step with which he walked up the hall. Lady Macleod sat calm and erect, her lips proud and firm, but her lean hands were working nervously together; and at last, when the doors were closed on the slow and stately and mournful "Lament for the Children," she bent down the silvery head on those wrinkled hands, and wept aloud. Patrick Mòr's seven brave sons could have been no more to him than her six tall lads had been to her; and now the last of them was going away from her.

"Do you know," said Janet quickly, to her cousin across the table, "that it is said no piper in the west Highlands can play 'Lord Lovat's Lament' like our Donald?"

"Oh, yes, he plays it very well; and he has got a good step," Macleod said. "But you will tell him to play no more laments to-night. Let him take to strathspeys if any of the lads come up after bringing back the boat. It will be time enough for him to make a Lament for me when I am dead. Come, mother, have you no message for Norman Ogilvie?"

The old lady had nerved herself again, though her hands were still trembling.

"I hope he will come back with you, Keith," she said.

"For the shooting? No, no, mother. He was not fit for the shooting about here: I have seen that long ago. Do you think he could lie for an hour in a wet bog? It was up at Fort William I saw him last year; and I said to him 'Do you wear gloves at Aldershot?' His hands were as white as the hands of a woman."

"It is no woman's hand you have,

Keith," his cousin said; "it is a soldier's hand."

"Yes," said he, with his face flushing, "and if I had had Norman Ogilvie's chance"—

But he paused. Could he reproach this old dame, on the very night of his departure, with having disappointed all those dreams of military service and glory that are almost the natural inheritance of a Macleod of the Western Highlands? If he was a stay-at-home at least his hands were not white. And yet, when young Ogilvie and he studied under the same tutor—the poor man had to travel eighteen miles between the two houses, many a time in hard weather—all the talk and aspirations of the boys were about a soldier's life; and Macleod could show his friend the various trophies and curiosities sent home by his elder brothers from all parts of the world. And now the lily-fingered and gentle-natured Ogilvie was at Aldershot; while he—what else was he than a mere deer-stalker and salmon-killer?

"Ogilvie has been very kind to me, mother," he said, laughing. "He has sent me a list of places in London where I am to get my clothes, and boots, and a hat; and by the time I have done that he will be up from Aldershot, and will lead me about—with a string round my neck I suppose, lest I should bite somebody."

"You could not go better to London than in your own tartan," said the proud mother, "and it is not for an Ogilvie to say how a Macleod shall be dressed. But it is no matter. One after the other has gone; the house is left empty at last. And they all went away like you, with a laugh on their face. It was but a trip, a holiday, they said: they would soon be back to Dare. And where are they this night?"

Old Hamish came in.

"It will be time for the boat now, Sir Keith, and the men are down at the shore."

He rose, the handsome young fellow, and took his broad blue bonnet with the badge of juniper.

"Good-bye, Cousin Janet," said he lightly. "Good-bye, mother—you are not going to send me away in this sad fashion? What am I to bring you back? A satin gown from Paris? or a

young bride to cheer up the old house?"

She took no heed of the passing jest. He kissed her, and bade her good-bye once more. The clear stars were shining over Castle Dare, and over the black shadows of the mountains, and the smoothly swelling waters of the Atlantic. There was a dull booming of the waves along the rocks.

He had thrown his plaid around him, and he was wondering to himself as he descended the steep path to the shore. He could not believe that the two women were really saddened by his going to the south for a while; he was not given to forebodings. And he had nearly reached the shore when he was overtaken by some one running with a light step behind him. He turned quickly, and found his cousin before him, a shawl thrown round her head and shoulders.

"Oh, Keith!" said she, in a bright and matter-of-fact way, "I have a message for you—from myself—and I did not want aunt to hear, for she is very proud, you know, and I hope you won't be. You know we are all very poor, Keith; and yet you must not want money in London, if only for the sake of the family; and you know I have a little, Keith—and I want you to take it. You won't mind my being frank with you. I have written a letter."

She had the envelope in her hand.

"And if I would take money from any one it would be from you, Cousin Janet; but I am not so selfish as that. What would all the poor people do if I were to take your money to London and spend it?"

"I have kept a little," said she, "and it is not much that is needed. It is £2000 I would like you to take from me, Keith; I have written a letter."

"Why, bless me, Janet, that is nearly all the money you've got!"

"I know it."

"Well, I may not be able to earn any money for myself, but at least I would not think of squandering your little fortune. No, no; but I thank you all the same, Janet; and I know that it is with a free heart that you offer it."

"But this is a favor, Keith," said she. "I do not ask you to spend the money. But you might be in trouble; and you

would be too proud to ask any one—perhaps you would not even ask me; and here is a letter that you can keep till then, and if you should want the money you can open the letter, and it will tell you how to get it."

"And it is a poor forecast you are making, Cousin Janet," said he cheerfully. "I am to play the prodigal son, then? But I will take the letter. And good-bye again, Janet; and God bless you, for you are a kind-hearted woman."

She went swiftly up to Castle Dare again, and he walked on towards the shore. By-and-by he reached a small stone pier that ran out among some rocks, and by the side of it lay a small sailing-launch, with four men in her, and Donald the piper-boy perched up at the bow. There was a lamp swinging at her mast, but she had no sail up, for there was scarcely any wind.

"Is it time to go out now?" said Macleod to Hamish, who stood waiting on the pier, having carried down his master's portmanteau.

"Ay, it will be time now, even if you will wait a little," said Hamish; and then the old man added, "It is a dark night, Sir Keith, for your going away from Castle Dare."

"And it will be the brighter morning when I come back," answered the young man, for he could not mistake the intention of the words.

"Yes, indeed, Sir Keith; and now you will go into the boat, and you will take care of your footing, for the night is dark, and the rocks they are always slippery whatever."

But Keith Macleod's foot was as familiar with the soft seaweed of the rocks as it was with the hard heather of the hills; and he found no difficulty in getting into the broad-beamed boat. The men put out their oars, and pushed her off. And now, in the dark night, the skirl of the pipes arose again; and it was no stately and mournful lament that young Donald played up there at the bow, as the four oars struck the sea, and sent a flash of white fire down into the deeps.

"Donald," Hamish had said to him, on the shore, "when you are going out to the steamer, it is the 79th's Farewell to Chubralter that you will play; and you will play no other thing than that."

And surely the 79th were not sorry to leave Gibraltar when their piper composed for them so glad a farewell.

At the high windows of Castle Dare the mother stood, and her niece, and as they watched the yellow lamp move slowly out from the black shore they heard this proud and joyous march that Donald was playing to herald the approach of his master. They listened to it as it grew fainter and fainter, and as the small yellow star, trembling over the dark waters, became more and more remote. And then this other sound: this blowing of a steam-whistle, far away in the darkness.

"He will be in good time, aunt; she is a long way off yet," said Janet Macleod; but the mother did not speak.

Out there, on the dark and moving waters, the great steamer was slowly drawing near the open boat; and, as she came up, the vast hull of her, seen against the starlit sky, seemed a mountain.

"Now, Donald," Macleod called out, "you will take the dog; here is the string; and you will see he does not spring into the water."

"Yes, I will take the dog," muttered the boy, half to himself. "Oh, yes, I will take the dog; but it was better if I was going with you, Sir Keith, than any dog."

A rope was thrown out, the boat dragged up to the side of the steamer, the small gangway let down, and presently Macleod was on the deck of the large vessel. Then Oscar was hauled up too, and the rope flung loose; and the boat drifted away into the darkness. But the last good-bye had not been said, for over the black waters came the sound of the pipes once more, the melancholy wail of *Mackintosh's Lament*.

"Confound that obstinate brat!" Macleod said to himself. "Now he will go back to Castle Dare, and make the women miserable."

"The captain is below at his supper, Sir Keith," said the mate. "Will you go down to him?"

"Yes, I will go down to him," said he, and he made his way along the deck of the steamer.

He was arrested by the sound of some one crying, and he looked down and found a woman crouched under the bulwarks, with two small children asleep on her knee.

"My good woman, what is the matter with you?" said he.

"The night is cold," she said, in the Gaelic, "and my children are cold; and it is a long way that we are going."

He answered her in her own tongue.

"You will be warmer if you go below; but here is a plaid for you anyway," and with that he took the plaid from round his shoulders and flung it across the children, and passed on.

That was the way of the Macleods of Dare. They had a royal manner with them. Perhaps that was the reason that their revenues were now far from royal.

And meanwhile the red light still burned in the high windows of Castle Dare, and two women were there looking out on the pale stars and the dark sea beneath. They waited until they heard the plashing of oars in the small bay below, and the message was brought them that Sir Keith had got safely on board the great steamer. Then they turned away from the silent and empty night, and one of them was weeping bitterly.

"It is the last of my six sons that has gone from me," she said, coming back to the old refrain, and refusing to be comforted.

"And I have lost my brother," said Janet Macleod, in her simple way. "But he will come back to us, auntie; and then we shall have great doings at Castle Dare."

CHAPTER II.

MENTOR.

IT WAS WITH a wholly indescribable surprise and delight that Macleod came upon the life and stir and gaiety of London in the sweet June time, when the parks and gardens and squares would of themselves have been a sufficient wonder to him. The change from the sombre shores of Lochs na Keal, and Tua, and Scridain to this world of sunlit foliage—the golden yellow of the laburnum, the cream-white of the chestnut, the rose-pink of the red hawthorn, and everywhere the keen translucent green of the young lime-trees—was enough to fill the heart with joy and gladness, though he had been no diligent student of landscape and color. The few days he had to spend by himself—while getting

properly dressed to satisfy the demands of his friend—passed quickly enough. He was not at all ashamed of his country-made clothes as he watched the whirl of carriages in Piccadilly, or lounged under the elms of Hyde Park, with his beautiful silver-white and lemon-colored collie attracting the admiration of every passer-by. Nor had he waited for the permission of Lieutenant Ogilvie to make his entrance into at least one little corner of society. He was recognised in St. James's Street one morning by a noble lady whom he had met once or twice at Inverness; and she, having stopped her carriage, was pleased to ask him to lunch with herself and her husband next day. To the great grief of Oscar, who had to be shut up by himself, Macleod went up next day to Brook Street, and there met several people whose names he knew as representatives of old Highland families, but who were very English, as it seemed to him, in their speech and ways. He was rather petted, for he was a handsome lad; and he had high spirits and a proud air. And his hostess was so kind as to mention that the Caledonian Ball was coming off on the 25th; and of course he must come, in the Highland costume; and, as she was one of the patronesses, should she give him a voucher? Macleod answered, laughingly, that he would be glad to have it, though he did not know what it was; whereupon she was pleased to say that no wonder he laughed at the notion of a voucher being wanted for any Macleod of Dare.

One morning a good-looking and slim young man knocked at the door of a small house in Bury Street, St. James's, and asked if Sir Keith Macleod was at home. The man said he was; and the young gentleman entered. He was a most correctly-dressed person. His hat, and gloves, and cane, and long-tailed frock-coat were all beautiful; but it was perhaps the tightness of his nether garments or perhaps the tightness of his brilliantly polished boots (which were partially covered by white gaiters) that made him go up the narrow little stairs with some precision of caution. The door was opened and he was announced.

"My dear old boy," said he, "how do you do?"—and Macleod gave him a

grip of the hand that nearly burst one of his gloves.

But at this moment an awful accident occurred. From behind the door of the adjacent bedroom Oscar the collie sprang forward with an angry growl; then he seemed to recognise the situation of affairs when he saw his master holding the stranger's hand; then he began to wag his tail; then he jumped up with his forepaws to give a kindly welcome.

"Hang it all, Macleod!" young Ogilvie cried, with all the precision gone out of his manner. "Your dog's all wet! What's the use of keeping a brute like that about the place?"

Alas! the beautiful, brilliant boots were all besmeared, and the white gaiters too, and the horsey-looking nether garments. Moreover, the Highland savage, so far from betraying compunction, burst into a roar of laughter.

"My dear fellow," he cried, "I put him in my bedroom to dry: I couldn't do more—could I? He has just been in the Serpentine."

"I wish he was there now, with a stone and a string round his neck," observed Lieutenant Ogilvie, looking at his boots; but he repented him of this rash saying, for within a week he had offered Macleod twenty pounds for the dog. He might have offered twenty dozen of twenty pounds, and thrown his polished boots and his gaiters too into the bargain, and he would have had the same answer.

Oscar was once more banished into the bedroom; and Mr. Ogilvie sat down, pretending to take no more notice of his boots. Macleod put some sherry on the table and a handful of cigars; his friend asked whether he not could have a glass of seltzer-water and a cigarette.

"And how do you like the rooms I got for you?"

"There is not much fresh air about them, nor in this narrow street," Macleod said frankly, "but that is no matter, for I have been out all day—all over London."

"I thought the price was as high as you would care to go," Ogilvie said, "but I forgot you had come fresh up, with your pockets full of money. If you would like something a trifle more princely, I'll put you up to it."

"And where have I got the money? There are no gold mines in the west of Mull. It is you who are Fortunatus."

"By Jove, if you knew how hard a fellow is run at Aldershot!" Mr. Ogilvie remarked confidentially. "You would scarcely believe it. Every new batch of fellows who come in have to be dined all round; and the mess-bills are simply awful. It's getting worse and worse; and then these big drinks put one off one's work so."

"You are studying hard, I suppose?" Macleod said, quite gravely.

"Pretty well," said he, stretching out his legs, and petting his pretty moustache with his beautiful white hand. Then he added suddenly, surveying the brown-faced and stalwart young fellow before him, "By Jove, Macleod! I'm glad to see you in London. It's like a breath of mountain air. Don't I remember the awful mornings we've had together—the rain and the mist and the creeping through the bogs? I believe you did your best to kill me. If I hadn't had the constitution of a horse I should have been killed."

"I should say your big drinks at Aldershot were more likely to kill you than going after the deer," said Macleod. "And will you come up with me this autumn, Ogilvie? The mother will be glad to see you, and Janet, too; though we haven't got any fine young ladies for you to make love to, unless you go up to Fort William, or Fort George, or Inverness. And I was all over the moors before I came away; and if there is anything like good weather, we shall have plenty of birds this year, for I never saw before such a big average of eggs in the nests."

"I wonder you don't let part of that shooting," said young Ogilvie, who knew well of the straitened circumstances of the Macleods of Dare.

"The mother won't have it done," said Macleod, quite simply, "for she thinks it keeps me at home. But a young man cannot always stay at home. It is very good for you, Ogilvie, that you have brothers."

"Yes, if I had been the eldest of them," said Mr. Ogilvie. "It is a capital thing to have younger brothers; it isn't half so pleasant when you are the younger brother."

"And will you come up, then, and bury yourself alive at Dare?"

"It is awfully good of you to ask me, Macleod, and if I can manage it I will; but I am afraid there isn't much chance this year. In the mean time, let me give you a hint. In London, we talk of going *down* to the Highlands."

"Oh, do you? I did not think you were so stupid," Macleod remarked.

"Why, of course we do. You speak of going up to the capital of a country, and of going down to the provinces."

"Perhaps you are right—no doubt you are right; but it sounds stupid," the unconvinced Highlander observed again. "It sounds stupid to say going up to the south, and going down to the north. And how can you go down to the Highlands? you might go down to the Lowlands. But no doubt you are right; and I will be more particular. And will you have another cigarette? and then we will go out for a walk, and Oscar will get drier in the street than indoors."

"Don't imagine I am going out to have that dog plunging about among my feet," said Ogilvie. "But I have something else for you to do. You know Colonel Ross of Duntormie?"

"I have heard of him."

"His wife is an awfully nice woman, and would like to meet you. I fancy they think of buying some property—I am not sure it isn't an island—in your part of the country; and she has never been to the Highlands at all. I was to take you down with me to lunch with her at two, if you care to go. There is her card."

Macleod looked at the card.

"How far is Prince's Gate from here?" he asked.

"A mile and a half, I should say."

"And it is now twenty minutes to two," said he, rising. "It will be a nice smart walk."

"Thank you," said Mr. Ogilvie, "if it is all the same to you we will perform the journey in a hansom. I am not in training just at present for your tramps to Ben-an-Sloich."

"Ah! your boots are rather tight?" said Macleod, with grave sympathy.

They got into a hansom, and went spinning along through the crowd of carriages on this brilliant morning. The

busy streets, the handsome women, the fine buildings, the bright and beautiful foliage of the parks—all these were a perpetual wonder and delight to the newcomer, who was as eager in the enjoyment of this gay world of pleasure and activity as any girl come up for her first season. Perhaps this notion occurred to the astute and experienced Lieutenant Ogilvie, who considered it his duty to warn his youthful and ingenuous friend.

"Mrs. Ross is a very handsome woman," he remarked.

"Indeed."

"And uncommonly fascinating too, when she likes."

"Really?"

"You had better look out if she tries to fascinate you."

"She is a married woman," said Macleod.

"They are always the worst," said this wise person; "for they are jealous of the younger women"—

"Oh, that is all nonsense," said Macleod, bluntly. "I am not such a greenhorn. I have read all that kind of talk in books and magazines—it is ridiculous. Do you think I will believe that married women have so little self-respect as to make themselves the laughing-stock of men?"

"My dear fellow, they have cart-loads of self-respect. What I mean is, that Mrs. Ross is a bit of a lion-hunter; and she may take a fancy to make a lion of you"—

"That is better than to make an ass of me, as you suggested."

"And naturally she will try to attach you to her set. I don't think you are quite *outré* enough for her; perhaps I made a mistake in putting you into decent clothes. You wouldn't have time to get into your kilts now? But you must be prepared to meet all sorts of queer folks at her house—especially if you stay on a bit and have some tea—mysterious poets that nobody ever heard of, and artists who won't exhibit, and awful swells from the German Universities, and I don't know what besides—everybody who isn't the least like anybody else."

"And what is your claim, then, to go there?" Macleod asked.

"Oh," said the young lieutenant, laughing at the home-thrust, "I am only ad-

mitted on sufferance, as a friend of Colonel Ross. She never asked *me* to put my name in her autograph book. But I have done, a bit of the jackal for her once or twice, when I happened to be on leave; and she has sent me with people to her box at Covent Garden when she couldn't go herself."

"And how am I to propitiate her? What am I to do?"

"She will soon let you know how you strike her. Either she will pet you, or she will snuff you out like winking. I don't know a woman who has a blanker stare, when she likes."

This idle conversation was suddenly interrupted. At the same moment both young men experienced a sinking sensation, as if the earth had been cut away from beneath their feet; then there was a crash, and they were violently thrown against each other; then they vaguely knew that the cab, heeling over, was being jolted along the street by a runaway horse. Fortunately the horse could not run very fast; for the axle-tree, deprived of its wheel, was tearing at the road; but all the same the occupants of the cab thought they might as well get out, and so they tried to force open the two small panels of the door in front of them. But the concussion had so jammed these together that, shove at them as they might, they would not yield. At this juncture, Macleod, who was not accustomed to Hansom cabs, and did not at all like this first experience of them, determined to get out somehow; and so he raised himself a bit, so as to get his back firm against the back of the vehicle; he pulled up his leg until his knee almost touched his mouth; he got the heel of his boot firmly fixed on the top edge of the door; and then with one forward drive he tore the panel right away from its hinges. The other was, of course, flung open at once. Then he grasped the brass rail outside, steadied himself for a moment, and jumped clear from the cab, alighting on the pavement. Strange to say, Ogilvie did not follow; though Macleod, as he rushed along to try to get hold of the horse, momentarily expected to see him jump out. His anxiety was of short duration. The axle-tree caught on the kerb; there was a sudden lurch; and then, with a crash of glass, the cab went right over, throwing down the horse and pitching the driver

into the street. It was all the work of a few seconds, and another second seemed to suffice to collect a crowd, even in this quiet part of Kensington. But after all very little damage was done, except to the horse, which had cut one of its hocks. When young Mr. Ogilvie scrambled out and got on to the pavement, instead of being grateful that his life had been spared, he was in a towering passion—with whom or what he knew not.

"Why didn't you jump out?" said Macleod to him, after seeing that the cabman was all right.

Ogilvie did not answer; he was looking at his besmeared hands and dishevelled clothes.

"Confound it," said he, "what's to be done now? The house is just round the corner."

"Let us go in and they will lend you a clothes-brush."

"As if I had been fighting a bargee? No, thank you. I will go along till I find some tavern, and get myself put to rights."

And this he did, gloomily; Macleod accompanying him. It was about a quarter of an hour before he had completed his toilet; and then they set out to walk back to Prince's Gate. Mr. Ogilvie was in a better humor.

"What a fellow you are to jump, Macleod!" said he. "If you had cannoned against that policeman, you would have killed him. And you never paid the cabman for destroying the lid of the door; you prized the thing clean off its hinges. You must have the strength of a giant."

"But where the people came from, it was that surprised me," said Macleod, who seemed to have rather enjoyed the adventure, "it was like one of our sea-lochs in the Highlands—you look all around and cannot find any gull anywhere—but throw a biscuit or two into the water, and you will find them appearing from all quarters at once. As for the door, I forgot that; but I gave the man half-a-sovereign to console him for his shaking. Was not that enough?"

"We shall be frightfully late for luncheon," said Mr. Ogilvie, with some concern.

CHAPTER III.

FIONAGHAL.

And indeed when they entered the
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house—the balconies and windows were a blaze of flowers all shining in the sun—they found that their host and hostess had already come downstairs and were seated at table with their small party of guests. This circumstance did not lessen Sir Keith Macleod's trepidation; for there is no denying the fact that the young man would rather have faced an angry bull on a Highland road than this party of people in the hushed and semi-darkened and flower-scented room. It seemed to him that his appearance was the signal for a confusion that was equivalent to an earthquake. Two or three servants—all more solemn than any clergyman—began to make new arrangements; a tall lady, benign of aspect, rose and most graciously received him; a tall gentleman, with a grey moustache, shook hands with him; and then, as he vaguely heard young Ogilvie, at the other end of the room, relate the incident of the upsetting of the cab, he found himself seated, next to this benign lady, and apparently in a bewildering Paradise of beautiful lights and colors and delicious odors. Asparagus soup? Yes, he would take that; but for a second or two this spacious and darkened room, with its stained glass and its sombre walls, and the table before him, with its masses of roses and lilies of the valley, its silver, its crystal, its nectarines, and cherries, and pine-apples, seemed some kind of enchanted place. And then the people talked in a low and hushed fashion; and the servants moved silently and mysteriously; and the air was languid with the scents of fruits and flowers. They gave him some wine in a tall green glass that had transparent lizards crawling up its stem; he had never drank out of a thing like that before.

"It was very kind of Mr. Ogilvie to get you to come; he is a very good boy; he forgets nothing," said Mrs. Ross to him; and as he became aware that she was a pleasant-looking lady of middle age, who regarded him with very friendly and truthful eyes, he vowed to himself that he would bring Mr. Ogilvie to task for representing this decent and respectable woman as a graceless and dangerous coquette. No doubt she was the mother of children. At her time of life she was better employed in the nursery or in the kitchen than in flirting with

young men; and could he doubt that she was a good house-mistress when he saw with his own eyes how spick and span everything was, and how accurately everything was served? Even if his cousin Janet lived in the south, with all these fine flowers and hothouse fruits to serve her purpose, she could not have done better. He began to like this pleasant-eyed woman, though she seemed delicate and a trifle languid, and in consequence he sometimes could not quite make out what she said. But then he noticed that the other people talked in this limp fashion too: there was no precision about their words; frequently they seemed to leave you to guess the end of their sentences. As for the young lady next him, was she not very delicate, also? He had never seen such hands—so small, and fine, and white. And although she talked only to her neighbor on the other side of her, he could hear that her voice, low and musical as it was, was only a murmur.

"Miss White and I," said Mrs. Ross to him—and at this moment the young lady turned to them—"were talking before you came in of the beautiful country you must know so well, and of its romantic stories and associations with Prince Charlie. Gertrude, let me introduce Sir Keith Macleod to you. I told Miss White you might come to us to-day; and she was saying what a pity it was that Flora Macdonald was not a Macleod."

"That was very kind," said he, frankly, turning to this tall pale girl, with the rippling hair of golden-brown and the heavy-lidded and downcast eyes. And then he laughed. "We would not like to steal the honor from a woman—even though she was a Macdonald, and you know the Macdonalds and the Macleods were not very friendly in the old time. But we can claim something, too, about the escape of Prince Charlie, Mrs. Ross. After Flora Macdonald had got him safe from Harris to Skye, she handed him over to the sons of Macleod of Raasay, and it was owing to them that he got to the mainland. You will find many people up there to this day who believe that if Macleod of Macleod had gone out in '45 Prince Charlie would never have had to flee at all. But I think the Mac-

leods had done enough for the Stuarts; and it was but little thanks they ever got in return, so far as I could ever hear. Do you know, Mrs. Ross, my mother wears mourning every 3rd of September, and will eat nothing from morning till night? It is the anniversary of the Battle of Worcester; and then, the Macleods were so smashed up that for a long time the other clans relieved them from military service."

"You are not much of a Jacobite, Sir Keith?" said Mrs. Ross, smiling.

"Only when I hear a Jacobite song sung," said he. "Then who can fail to be a Jacobite?"

He had become quite friendly with this amiable lady. If he had been afraid that his voice, in these delicate southern ears, must sound like the first guttural drone of Donald's pipes at Castle Dare, he had speedily lost that fear. The manly, sun-browned face and clear-glancing eyes were full of animation; he was oppressed no longer by the solemnity of the servants; so long as he talked to her he was quite confident; he had made friends with this friendly woman. But he had not as yet dared to address the pale girl who sat on his right, and who seemed so fragile and beautiful, and distant in manner.

"After all," said he to Mrs. Ross, "there were no more Highlanders killed in the cause of the Stuarts than used to be killed every year or two merely out of the quarrels of the clans among themselves. All about where I live there is scarcely a rock or a loch or an island that has not its story. And I think," added he, with a becoming modesty, "that the Macleods were by far the most treacherous, and savage, and blood-thirsty of the whole lot of them."

And now the fair stranger beside him addressed him for the first time; and as she did so she turned her eyes towards him—clear, large eyes that rather startled one when the heavy lids were lifted, so full of expression were they.

"I suppose," said she, with a certain demure smile, "you have no wild deeds done there now?"

"Oh, we have become quite peaceable folks now," said he, laughing. "Our spirit is quite broken. The wild boars are all away from the islands now, even from Muick. We have only the

sheep. And the Mackenzies, and the Macleans, and the Macleods—they are all sheep now."

Was it not quite obvious? How could any one associate with this bright-faced young man the fierce traditions of hate, and malice, and revenge that make the seas and islands of the north still more terrible in their loneliness? Those were the days of strong wills and strong passions, and of an easy disregard of individual life when the gratification of some set desire was near. What had this Macleod to do with such scorching fires of hate and of love? He was playing with a silver fork and half-a-dozen strawberries; Miss White's surmise was perfectly natural and correct.

The ladies went up-stairs; and the men, after the claret had gone round, followed them. And now it seemed to this rude Highlander that he was only going from wonder to wonder. Half-way up the narrow staircase was a large recess dimly lit by the sunlight falling through stained glass; and there was a small fountain playing in the middle of this grotto; and all around was a wilderness of ferns dripping with the spray, while at the entrance two stone figures held up magical globes on which the springing and falling water was reflected. Then from this partial gloom he emerged into the drawing-room—a dream of rose-pink and gold; with the air sweetened around him by the masses of roses and tall lilies about. His eyes were rather bewildered at first; the figures of the women seemed dark against the white lace of the windows. But as he went forward to his hostess he could make out still further wonders of color: for in the balconies outside, in the full glare of the sun, were geraniums and lobelias and golden calceolarias and red snapdragon; their bright hues faintly tempered by the thin curtains through which they were seen. He could not help expressing his admiration of these things that were so new to him; for it seemed to him that he had come into a land of perpetual summer and sunshine and glowing flowers. Then the luxuriant greenness of the foliage on the other side of Exhibition Road—for Mrs. Ross's house faced westward—was, as he said, singularly

beautiful to one accustomed to the windy skies of the western isles.

"But you have not seen our elm—our own elm," said Mrs. Ross, who was arranging some azaleas that had just been sent her. "We are very proud of our elm. Gertrude, will you take Sir Keith to see our noble elm?"

He had almost forgotten who Gertrude was; but the next second he recognised the low and almost timid voice that said—

"Will you come this way, then, Sir Keith?"

He turned, and found that it was Miss White who spoke. How was it that this girl, who was only a girl, seemed to do things so easily, and gently, and naturally—without any trace of embarrassment or self-consciousness? He followed her, and knew not which to admire the more—the careless simplicity of her manner, or the singular symmetry of her tall and slender figure. He had never seen any statue or any picture in any book to be compared with this woman, who was so fine and rare and delicate that she seemed only a beautiful tall flower in this garden of flowers. There was a strange simplicity, too, about her dress—a plain, tight-fitting, tight-sleeved dress of unrelieved black; her only adornment being some bands of big blue beads worn loosely round the neck. The black figure, in this shimmer of rose-pink and gold and flowers, was effective enough; but even the finest of pictures, or the finest of statues, has not the subtle attraction of a graceful carriage. Macleod had never seen any woman walk as this woman walked, in so stately and yet so simple a way.

From Mrs. Ross's chief drawing-room they passed into an ante-drawing-room, which was partly a passage and partly a conservatory. On the window-side were some rows of Cape heaths; on the wall-side some rows of blue and white plates; and it was one of the latter that was engaging the attention of two persons in this ante-room—Colonel Ross himself, and a little old gentleman in gold-rimmed spectacles.

"Shall I introduce you to my father?" said Miss White to her companion; and after a word or two, they passed on.

"I think papa is invaluable to Colonel Ross," said she, "he is as good as an auctioneer at telling the value of china. Look at this beautiful heath. Mrs. Ross is very proud of her heaths."

The small white fingers scarcely touched the beautiful blossoms of the plant; but which were the more palely roseate and waxen? If one were to grasp that hand—in some sudden moment of entreaty—in the sharp joy of reconciliation—in the agony of farewell—would it not be crushed like a frail flower?

"There is our elm," said she, lightly. "Mrs. Ross and I regard it as our own; we have sketched it so often."

They had emerged from the conservatory into a small square room, which was practically a continuation of the drawing-room, but which was decorated in pale blue and silver, and filled with a lot of knick-knacks that showed it was doubtless Mrs. Ross's boudoir. And out there, in the clear June sunshine, lay the broad greensward behind Prince's Gate, with the one splendid elm spreading his broad branches into the blue sky, and throwing a soft shadow on the corner of the gardens next to the house. How sweet and still it was! as still as the calm clear light in this girl's eyes. There was no passion there, and no trouble; only the light of a June day, and of blue skies, and a peaceful soul. She rested the tips of her fingers on a small rosewood table that stood by the window: surely, if a spirit ever lived in any table, the wood of this table must have thrilled to its core.

And had he given all this trouble to this perfect creature merely that he should look at a tree?—and was he to say some ordinary thing about an ordinary elm to tell her how grateful he was? "It is like a dream to me," he said, honestly enough, "since I came to London. You seem always to have sunlight and plenty of fine trees and hothouse flowers. But I suppose you have winter, like the rest of us?"

"Or we should very soon tire of all this, beautiful as it is," said she, and she looked rather wistfully out on the broad still gardens. "For my part, I should very soon tire of it. I should think there was more excitement in the wild storms and the dark nights of the north.

There must be a strange fascination in the short winter days among the mountains, and the long winter nights by the side of the Atlantic."

He looked at her. That fierce fascination he knew something of: how had she guessed at it? And as for her talking as if she herself would gladly brave these storms—was it for a foam-bell to brave a storm? was it for a rose-leaf to meet the driving rains of Ben-an-Sloich?

"Shall we go back now?" said she; and as she turned to lead the way he could not fail to remark how shapely her neck was, for her rich golden-brown hair was loosely gathered up behind.

But just at this moment Mrs. Ross made her appearance.

"Come," said she, "we shall have a chat all to ourselves; and you will tell me, Sir Keith, what you have seen since you came to London, and what has struck you most. And you must stay with us, Gertrude; perhaps Sir Keith will be so kind as to freeze your blood with another horrible story about the Highlanders—I am only a poor southerner and had to get up my legends from books—but this wicked girl, Sir Keith, delights as much in stories of bloodshed as a schoolboy does."

"You will not believe her," said Miss White, in that low-toned gravely sincere voice of hers, while a faint shell-like pink suffused her face. "It was only that we were talking of the Highlands, because we understood you were coming; and Mrs. Ross was trying to make out"—and here a spice of proud mischief came into the ordinarily calm eyes—"she was trying to make out that you must be a very terrible and dangerous person, who would probably murder us all if we were not civil to you."

"Well, you know, Sir Keith," said Mrs. Ross, apologetically, "you acknowledge yourself that you Macleods were a very dreadful lot of people at one time. What a shame it was to track the poor fellow over the snow, and then deliberately to put brushwood in front of the cave, and then suffocate whole two hundred persons at once!"

"Oh, yes, no doubt," said he, "but the Macdonalds were asked first to give up the men that had bound the Macleods hand and foot and set them adrift in the boat; and they would not do it.

And if the Macdonalds had got the Macleods into a cave, they would have suffocated them too. The Macdonalds began it."

"Oh, no, no, no!" protested Mrs. Ross, "I can remember better than that. What were the Macleods about on the island at all when they had to be sent off, tied hand and foot, in their boats?"

"And what is the difference between tying a man hand and foot and putting him out in the Atlantic, and suffocating him in a cave? It was only by an accident that the wind drifted them over to Skye."

"I shall begin to fear that you have some of the old blood in you," said Mrs. Ross, with a smile, "if you try to excuse one of the cruellest things ever heard of."

"I do not excuse it at all," said he, simply. "It was very bad—very cruel. But perhaps the Macleods were not so much worse than others. It was not a Macleod at all, it was a Gordon—and she a woman, too—that killed the chief of the Mackintoshes after she had received him as a friend. 'Put your head down on the table,' said she to the chief, 'in token of your submission to the Earl of Huntly.' And no sooner had he bowed his neck, than she whipped out a knife and cut his head off. That was a Gordon; not a Macleod. And I do not think the Macleods were so much worse than their neighbors, after all."

"Oh, how can you say that?" exclaimed his persecutor. "Who was ever guilty of such an act of treachery as setting fire to the barn at Dunvegan? Macdonald and his men get driven on to Skye by the bad weather; they beg for shelter from their old enemy; Macleod professes to be very great friends with them, and Macdonald is to sleep in the castle, while his men have a barn prepared for them. You know very well, Sir Keith, that if Macdonald had remained that night in Dunvegan Castle he would have been murdered; and if the Macleod girl had not given a word of warning to her sweetheart the men in the barn would have been burnt to death. I think if I were a Macdonald I should be proud of that scene—the Macdonalds marching down to their boats with their pipes playing, while the barn was all in a blaze, fired by

their treacherous enemies. Oh, Sir Keith, I hope there are no Macleods of that sort alive now!"

"There are not, Mrs. Ross," said he gravely. "They were all killed by the Macdonalds, I suppose."

"I do believe," said she, "that it was a Macleod who built a stone tower on a lonely island, and imprisoned his wife there"—

"Miss White," the young man said, modestly, "will not you help me? Am I to be made responsible for all the evil doings of my ancestors?"

"It is really not fair, Mrs. Ross," said she; and the sound of this voice pleading for him went to his heart: it was not as the voice of other women.

"I only meant to punish you," said Mrs. Ross, "for having traversed the indictment—I don't know whether that is the proper phrase, or what it means, but it sounds well. You first acknowledged that the Macleods were by far the most savage of the people living up there, and then you tried to make out that the poor creatures whom they harried were as cruel as themselves."

"What is cruel now was not cruel then," he said; "it was a way of fighting; it was what is called an ambush now—enticing your enemy, and then taking him at a disadvantage. And if you did not do that to him he would do it to you. And when a man is mad with anger or revenge, what does he care for anything?"

"I thought we were all sheep now?" said she.

"Do you know the story of the man who was flogged by Maclean of Lochbuy—that is, in Mull," said he, not heeding her remark. "You do not know that old story?"

They did not; and he proceeded to tell it, in a grave and simple fashion which was sufficiently impressive. For he was talking to these two friends now in the most unembarrassed way; and he had, besides, the chief gift of a born narrator—an utter forgetfulness of himself. His eyes rested quite naturally on their eyes as he told his tale. But first of all, he spoke of the exceeding loyalty of the Highland folk to the head of their clan. Did they know that other story of how Maclean of Duart tried to capture the young heir of the house of

Lochbuy, and how the boy was rescued and carried away by his nurse? And when, arrived at man's estate, he returned to revenge himself on those who had betrayed him, among them was the husband of the nurse. The young chief would have spared the life of this man, for the old woman's sake. "*Let the tail go with the hide*," said she, and he was slain with the rest. And then the narrator went on to the story of the flogging. He told them how Maclean of Lochbuy was out after the deer one day; and his wife, with her child, had come out to see the shooting. They were driving the deer; and at a particular pass a man was stationed so that, should the deer come that way, he should turn them back. The deer came to this pass; the man failed to turn them; the chief was mad with rage. He gave orders that the man's back should be bared, and that he should be flogged before all the people.

"Very well," continued Macleod. "It was done. But it is not safe to do anything like that to a Highlander; at least it *was* not safe to do anything like that to a Highlander in those days; for, as I told you, Mrs. Ross, we are all like sheep now. Then they went after the deer again; but at one moment the man that had been flogged seized Maclean's child from the nurse, and ran with it across the mountain-side, till he reached a place overhanging the sea. And he held out the child over the sea; and it was no use that Maclean begged on his knees for forgiveness. Even the passion of loyalty was lost now in the fierceness of revenge. This was what the man said—that unless Maclean had his back bared there and then before all the people, and flogged as he had been flogged, then the child should be dashed into the sea below. There was nothing to be done but that—no prayers, no offers, no appeals from the mother were of any use. And so it was that Maclean of Lochbuy was flogged there, before his own people; and his enemy above looking on. And then? When it was over, the man called aloud, 'Revenge! Revenge!' and sprang into the air with the child along with him; and neither of them was ever seen again after they had sunk into the sea. It is an old story."

An old story, doubtless, and often told; but its effect on this girl sitting beside him was strange. Her clasped hands trembled; her eyes were glazed and fascinated as if by some spell. Mrs. Ross, noticing this extreme tension of feeling, and fearing it, hastily rose.

"Come, Gertrude," she said, taking the girl by the hand, "we shall be frightened to death by these stories. Come and sing us a song—a French song, all about tears, and fountains, and bits of ribbon—or we shall be seeing the ghosts of murdered Highlanders coming in here in the daytime."

Macleod, not knowing what he had done, but conscious that something had occurred, followed them into the drawing-room, and retired into a sofa while Miss White sat down to the open piano. He hoped he had not offended her. He would not frighten her again with any ghastly stories from the wild northern seas. And what was this French song that she was about to sing? The pale slender fingers were wandering over the keys; and there was a sound—faint and clear and musical—as of the rippling of distant summer seas. And sometimes the sounds came nearer; and now he fancied he recognised some old familiar strain; and he thought of his cousin Janet somehow; and of summer days down by the blue waters of the Atlantic. A French song? Surely if this air, that seemed to come nearer and nearer, was blown from any earthly land, it had come from the valleys of Lochiel and Ardgour and from the still shores of Arisaig and Moidart? Oh, yes; it was a very pretty French song that she had chosen to please Mrs. Ross with.

"A wee bird came to our ha' door,"

—this was what she sang; and though, to tell the truth, she had not much of a voice, it was exquisitely trained, and she sang with a tenderness and expression such as he, at least, had never heard before—

"He warbled sweet and clearly;
An' aye the o'ercome o' his sang
Was 'Wae's me for Prince Charlie!'

Oh! when I heard the bonnie, bonnie
bird,
The tears cam' drappin rarely;
I took my bonnet off my head,
For well I lo'ed Prince Charlie."

It could not have entered into his imagination to believe that such pathos could exist apart from the actual sorrow of the world. The instrument before her seemed to speak; and the low, joint cry was one of infinite grief and longing and love.

"Quoth I, 'My bird, my bonnie, bonnie bird,
Is that a sang ye borrow?
Are these some words ye've learnt by heart
Or a lilt o' dool an' sorrow?'"

'Oh, no, no, no!' the wee bird sang,
'I've flown sin' mornin' early;
But sic a day o' wind and rain—
Oh, waes me for Prince Charlie!'"

Mrs. Ross glanced archly at him when she discovered what sort of French song it was that Miss White had chosen; but he paid no heed. His only thought was—*"If only the mother and Janet could hear this strange singing!"*

When she had ended, Mrs. Ross came over to him and said—

"That is a great compliment to you."

And he answered, simply—

"I have never heard any singing like that."

Then young Mr. Ogilvie—whose existence, by the way, he had entirely and most ungratefully forgotten—came up to the piano; and began to talk in a very pleasant and amusing fashion to Miss White. She was turning over the leaves of the book before her; and Macleod grew angry with this idle interference. Why should this lily-fingered jackanapes—whom a man could wind round a reel and throw out of window—disturb the rapt devotion of this beautiful Saint Cecilia?

She struck a firmer chord; the bystanders withdrew a bit; and of a sudden it seemed to him that all the spirit of all the clans was ringing in the proud fervour of this fragile girl's voice. Whence had she got this fierce Jacobite passion that thrilled him to the very finger-tips?

"I'll to Lochiel, and Appin, and kneel to them,

Down by Lord Murray and Roy of Kildarlie:

Brave Mackintosh, he shall fly to the field
wi' them;

These are the lads I can trust wi' my
Charlie!"

Could any man fail to answer? Could any man die otherwise than gladly if he

died with such an appeal ringing in his ears? Macleod did not know there was scarcely any more volume in this girl's voice now than when she was singing the plaintive wail that preceded it: it seemed to him that there was the strength of the tread of armies in it; and a challenge that could rouse a nation.

"Down through the Lowlands, down wi' the
Whigamore!

Loyal, true Highlanders, down wi' them
rarely!

Ronald and Donald, drive on wi' the broad
claymore

Over the necks of the foes of Prince Char-
lie!

Follow thee! Follow thee! Wha wadna
follow thee,

King o' the Highland hearts, bonnie
Prince Charlie!"

She shut the book, with a light laugh, and left the piano. She came over to where Macleod sat. When he saw that she meant to speak to him, he rose, and stood before her.

"I must ask your pardon," said she, smiling, "for singing two Scotch songs; for I know the pronunciation is very difficult."

He answered with no idle compliment—

"If *Tearlach banog*, as they used to call him, were alive now," said he—and indeed there was never any Stuart of them all, not even the Fair Young Charles himself, who looked more handsome than this same Macleod of Dare who now stood before her—"you would get him more men to follow him than any flag or standard he ever raised."

She cast her eyes down.

Mrs. Ross's guests began to leave.

"Gertrude," said she, "will you drive with me for half an hour?—the carriage is at the door. And I know the gentlemen want to have a cigar in the shade of Kensington Gardens: they might come back and have a cup of tea with us."

But Miss White had some engagement; she and her father left together; and the young men followed them almost directly—Mrs. Ross saying that she would be most pleased to see Sir Keith Macleod any Tuesday or Thursday afternoon he happened to be passing, as she was always at home on these days.

"I don't think we can do better than take her advice about the cigar," said young Ogilvie, as they crossed to Ken-

sington Gardens. "What do you think of her?"

"Of Mrs. Ross?"

"Yes."

"Oh, I think she is a very pleasant woman."

"Yes, but——" said Mr. Ogilvie, "how did she strike you? Do you think she is as fascinating as some men think her?"

"I don't know what men think about her," said Macleod. "It never occurred to me to ask whether a married woman was fascinating or not. I thought she was a friendly woman—talkative, amusing, clever enough."

They lit their cigars in the cool shadow of the great elms: who does not know how beautiful Kensington Gardens are in June? And yet Macleod did not seem disposed to be garrulous about these new experiences of his; he was absorbed, and mostly silent.

"That is an extraordinary fancy she has taken for Gertrude White," Mr. Ogilvie remarked.

"Why extraordinary?" the other asked, with sudden interest.

"Oh, well, it is unusual, you know; but she is a nice girl enough, and Mrs. Ross is fond of odd folks. You didn't speak to old White?—his head is a sort of British Museum of antiquities; but he is of some use to these people—he is such a swell about old armor, and china, and such things. They say he wants to be sent out to dig for Dido's funeral pyre at Carthage, and that he is only waiting to get the trinkets made at Birmingham."

They walked on a bit in silence.

"I think you made a good impression on Mrs. Ross," said Mr. Ogilvie, coolly. "You'll find her an uncommonly useful woman, if she takes a fancy to you; for she knows everybody and goes everywhere, though her own house is too small to let her entertain properly. By the way, Macleod, I don't think you could have hit on a worse fellow than I to take you about; for I am so little in London that I have become a rank outsider. But I'll tell you what I'll do for you if you will go with me to-night to Lord Beauregard's who is an old friend of mine. I will ask him to introduce you to some people—and his wife gives very good dances—and if any Royal or Imperial swell comes to town you'll be sure to run against him there. I forget who it is they are receiving there to-night; but anyhow you'll meet two or three of the fat duchesses whom Dizzy adores; and I shouldn't wonder if that Irish girl were there—the new beauty: Lady Beauregard is very clever at picking people up."

"Will Miss White be there?" Macleod asked, apparently deeply engaged in probing the end of his cigar.

His companion looked up in surprise: then a new fancy seemed to occur to him; and he smiled very slightly.

"Well, no," said he, slowly, "I don't think she will. In fact, I am almost sure she will be at the Piccadilly Theatre. If you like, we will give up Lady Beauregard, and after dinner go to the Piccadilly Theatre instead. How will that do?"

"I think that will do very well," said Macleod.—*Good Words.*

HOMER.

"This inaccessible poet."—CHAPMAN.

HOMER, thy song we liken to the sea,
With every note of music in its tone;
With waves that wash the dim dominion
Of Hades; and light foam that floats in glee
Around enchanted islands: yet to me
Thy verse is as the stream of source unknown,
The River of Egypt, that eternally
Mirrors kings' tombs, and temples overthrown.

No wiser we than men of heretofore,
 In mystic valleys of the mountains hoar,
 To find the sacred sources guarded fast:
 Enough, thy flood makes green our "human shore"
 As Nilus Egypt; murmuring evermore
 Of old-world wars, and empires of the past.

Cornhill Magazine.

TECHNICAL EDUCATION.*

BY PROFESSOR HUXLEY.

ANY candid observer of the phenomena of modern society will readily admit that bores must be classed among the enemies of the human race; and a little consideration will probably lead him to the further admission that no species of that extensive genus of noxious creatures is more objectionable than the educational bore. Convinced as I am of the truth of this great social generalization, it is not without a certain trepidation that I venture to address you on an educational topic. For, in the course of the last ten years, to go back no further, I am afraid to say how often I have ventured to speak of education, from that given in the primary schools to that which is to be had in the universities and medical colleges; indeed, the only part of this wide region into which as yet I have not adventured is that into which I propose to intrude to-day.

Thus I cannot but be aware that I am dangerously near becoming the thing which all men fear and fly. But I have deliberately elected to run the risk. For when you did me the honor to ask me to address you, an unexpected circumstance had led me to occupy myself seriously with the question of technical education; and I had acquired the conviction that there are few subjects respecting which it is more important for all classes of the community to have clear and just ideas than this, while, certainly, there is none which is more deserving of attention by the Working Men's Club and Institute Union.

It is not for me to express an opinion whether the considerations which I am about to submit to you will be proved by experience to be just or not; but I

will do my best to make them clear. Among the many good things to be found in Lord Bacon's works, none is more full of wisdom than the saying that "truth more easily comes out of error than out of confusion." Clear and consecutive wrong-thinking is the next best thing to right-thinking; so that, if I succeed in clearing your ideas on this topic, I shall have wasted neither your time nor my own.

"Technical education," in the sense in which the term is ordinarily used, and in which I am now employing it, means that sort of education which is specially adapted to the needs of men whose business in life it is to pursue some kind of handicraft; it is, in fact, a fine Greco-Latin equivalent for what in good vernacular English would be called "the teaching of handicrafts." And probably, at this stage of our progress, it may occur to many of you to think of the story of the cobbler and his last, and to say to yourselves, though you will be too polite to put the question openly to me, What does the speaker know practically about this matter? What is his handicraft? I think the question is a very proper one, and unless I were prepared to answer it, I hope satisfactorily, I should have chosen some other theme.

The fact is, I am, and have been any time these thirty years, a man who works with his hands—a handicraftsman: I do not say this in the broadly metaphorical sense in which fine gentlemen, with all the delicacy of Agag about them, trip to the hustings about election time and protest that they too are working men. I really mean my words to be taken in their direct, literal, and straightforward sense. In fact, if the most nimble-fingered watchmaker among you will come to my workshop, he may set me to put a watch

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together, and I will set him to dissect, say, a blackbeetle's nerves. I do not wish to vaunt, but I am inclined to think that I shall manage my job to his satisfaction sooner than he will do his piece of work to mine.

In truth, anatomy, which is my handicraft, is one of the most difficult kinds of mechanical labor, involving, as it does, not only lightness and dexterity of hand, but sharp eyes and endless patience. And you must not suppose that my particular branch of science is especially distinguished for the demand it makes upon skill in manipulation. A similar requirement is made upon all students of physical science. The astronomer, the electrician, the chemist, the mineralogist, the botanist, are constantly called upon to perform manual operations of exceeding delicacy. The progress of all branches of physical science depends upon observation, or on that artificial observation which is termed experiment, of one kind or another; and the further we advance the more practical difficulties surround the investigation of the conditions of the problems offered to us; so that mobile and yet steady hands, guided by clear vision, are more and more in request in the workshops of science.

Indeed, it has struck me that one of the grounds of that sympathy between the handicraftsmen of this country and the men of science, by which it has so often been my good fortune to profit, may, perhaps, lie here. You feel and we feel that, among the so-called learned folks, we alone are brought into contact with tangible facts in the way that you are. You know well enough that it is one thing to write a history of chairs in general, or to address a poem to a throne, or to speculate about the occult powers of the chair of St. Peter; and quite another thing to make with your own hands a veritable chair, that will stand fair and square, and afford a safe and satisfactory resting-place to a frame of sensitiveness and solidity.

So it is with us, when we look out from our scientific handicrafts upon the doings of our learned brethren, whose work is untrammelled by anything "base and mechanical," as handicrafts used to be called when the world was younger, and, in some respects, less wise than

now. We take the greatest interest in their pursuits; we are edified by their histories and are charmed with their poems, which sometimes illustrate so remarkably the powers of man's imagination; some of us admire and even humbly try to follow them in their high philosophical excursions, though we know the risk of being snubbed by the inquiry whether grovelling dissectors of monkeys and blackbeetles can hope to enter into the empyreal kingdom of speculation. But still we feel that our business is different; humbler if you will, though the diminution of dignity is, perhaps, compensated by the increase of reality; and that we, like you, have to get our work done in a region where little avails, if the power of dealing with practical tangible facts is wanting. You know that clever talk touching joinery will not make a chair; and I know that it is of about as much value in the physical sciences. Mother Nature is serenely obdurate to honeyed words; only those who understand the ways of things, and can silently and effectually handle them, get any good out of her.

And now, having, as I hope, justified my assumption of a place among handicraftsmen, and put myself right with you as to my qualification, from practical knowledge, to speak about technical education, I will proceed to put before you the results of my experience as a teacher of a handicraft, and tell you what sort of education I should think best adapted for a boy whom one wanted to make a professional anatomist.

I should say, in the first place, let him have a good English elementary education. I do not mean that he shall be able to pass in such and such a standard—that may or may not be an equivalent expression—but that his teaching shall have been such as to have given him command of the common implements of learning and created a desire for the things of the understanding.

Further, I should like him to know the elements of physical science, and especially of physics and chemistry, and I should take care that this elementary knowledge was real. I should like my aspirant to be able to read a scientific treatise in Latin, French, or German, because an enormous amount of ana-

tomical knowledge is locked up in those languages. And especially I should require some ability to draw—I do not mean artistically, for that is a gift which may be cultivated but cannot be learned, but with fair accuracy. I will not say that everybody can learn even this; for the negative development of the faculty of drawing in some people is almost miraculous. Still everybody, or almost everybody, can learn to write; and, as writing is a kind of drawing, I suppose that the majority of the people who say they cannot draw, and give copious evidence of the accuracy of their assertion, could draw, after a fashion, if they tried. And that "after a fashion" would be better than nothing for my purposes.

Above all things, let my imaginary pupil have preserved the freshness and vigor of youth in his mind as well as his body. The educational abomination of desolation of the present day is the stimulation of young people to work at high pressure by incessant competitive examinations. Some wise man (who probably was not an early riser) has said of early risers in general, that they are conceited all the forenoon and stupid all the afternoon. Now whether this is true of early risers in the common acceptance of the word or not, I will not pretend to say; but it is too often true of the unhappy children who are forced to rise too early in their classes. They are conceited all the forenoon of life, and stupid all its afternoon. The vigor and freshness, which should have been stored up for the purposes of the hard struggle for existence in practical life, have been washed out of them by precocious mental debauchery—by book gluttony and lesson bibbing. Their faculties are worn out by the strain put upon their callow brains, and they are demoralised by worthless childish triumphs before the real work of life begins. I have no compassion for sloth, but youth has more need for intellectual rest than age; and the cheerfulness, the tenacity of purpose, the power of work which make many a successful man what he is, must often be placed to the credit, not of his hours of industry, but to that of his hours of idleness, in boyhood. Even the hardest worker of us all, if he has to deal with anything above mere details, will do well, now and again, to

let his brain lie fallow for a space. The next crop of thought will certainly be all the fuller in the ear and the weeds fewer.

This is the sort of education which I should like any one who was going to devote himself to my handicraft to undergo. As to knowing anything about anatomy itself, on the whole I would rather he left that alone until he took it up seriously in my laboratory. It is hard work enough to teach, and I should not like to have superadded to that the possible need of unteaching.

Well, but, you will say, this is Hamlet with the Prince of Denmark left out; your "technical education" is simply a good education, with more attention to physical science, to drawing, and to modern languages, than is common, and there is nothing specially technical about it.

Exactly so; that remark takes us straight to the heart of what I have to say, which is, that, in my judgment, the preparatory education of the handicraftsman ought to have nothing of what is ordinarily understood by "technical" about it.

The workshop is the only real school for a handicraft. The education which precedes that of the workshop should be entirely devoted to the strengthening of the body, the elevation of the moral faculties, and the cultivation of the intelligence; and especially to the imbuing the mind with a broad and clear view of the laws of that natural world with the components of which the handicraftsman will have to deal. And the earlier the period of life at which the handicraftsman has to enter into actual practice of his craft, the more important is it that he should devote the precious hours of preliminary education to things of the mind, which have no direct and immediate bearing on his branch of industry, though they lie at the foundation of all realities.

Now let me apply the lessons I have learned from my handicraft to yours. If any of you were obliged to take an apprentice, I suppose you would like to get a good healthy lad, ready and willing to learn, handy, and with his fingers not all thumbs, as the saying goes. You would like that he should read, write, and cipher well; and, if you were an in-

telligent master, and your trade involved the application of scientific principles, as so many trades do, you would like him to know enough of the elementary principles of science to understand what was going on. I suppose that in nine trades out of ten it would be useful if he could draw; and many of you must have lamented your inability to find out for yourselves what foreigners are doing or have done. So that some knowledge of French and German might, in many cases, be very desirable.

So it appears to me that what you want is pretty much what I want; and the practical question is, How you are to get what you need, under the actual limitations and conditions of life of handicraftsmen in this country?

I think I shall have the assent both of the employers of labor and of the employed as to one of these limitations; which is, that no scheme of technical education is likely to be seriously entertained which will delay the entrance of boys into working life, or prevent them from contributing towards their own support, as early as they do at present. Not only do I believe that any such scheme could not be carried out, but I doubt its desirableness, even if it were practicable.

The period between childhood and manhood is full of difficulties and dangers, under the most favorable circumstances; and, even among the well-to-do, who can afford to surround their children with the most favorable conditions, examples of a career ruined, before it has well begun, are but too frequent. Moreover, those who have to live by labor must be shaped to labor early. The colt that is left at grass too long makes but a sorry draught-horse, though his way of life does not bring him within the reach of artificial temptations. Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to do, when it ought to be done, whether you like it or not; it is the first lesson that ought to be learned; and, however early a man's training begins, it is probably the last lesson that he learns thoroughly.

There is another reason, to which I have already adverted, and which I would reiterate, why any extension of the time devoted to ordinary school-

work is undesirable. In the newly awakened zeal-for education, we run some risk of forgetting the truth that, while under-instruction is a bad thing, over-instruction may possibly be a worse.

Success in any kind of practical life is not dependent solely, or indeed chiefly, upon knowledge. Even in the learned professions knowledge, alone, is of less consequence than people are apt to suppose. And, if much expenditure of bodily energy is involved in the day's work, mere knowledge is of still less importance when weighed against the probable cost of its acquirement. To do a fair day's work with his hands, a man needs, above all things, health, strength, and the patience and cheerfulness which, if they do not always accompany these blessings, can hardly in the nature of things exist without them; to which we must add honesty of purpose and a pride in doing what is done well.

A good handicraftsman can get on very well without genius, but he will fare badly without a reasonable share of what is a more useful possession for workaday life, namely, mother-wit; and he will be all the better for a real knowledge, however limited, of the ordinary laws of nature, and especially of those which apply to his own business.

Instruction carried so far as to help the scholar to turn his store of mother-wit to account, to acquire a fair amount of sound elementary knowledge, and to use his hands and eyes, while leaving him fresh, vigorous, and with a sense of the dignity of his own calling, whatever it may be, if fairly and honestly pursued, cannot fail to be of invaluable service to all those who come under its influence.

But, on the other hand, if school instruction is carried so far as to encourage bookishness; if the ambition of the scholar is directed, not to the gaining of knowledge, but to the being able to pass examinations successfully; especially if encouragement is given to the mischievous delusion that brainwork is, in itself, and apart from its quality, a nobler or more respectable thing than handiwork—such education may be a deadly mischief to the workman, and lead to the rapid ruin of the industries it is intended to serve.

I know that I am expressing the

opinion of some of the largest as well as the most enlightened employers of labor, when I say that there is a real danger that, from the extreme of no education, we may run to the other extreme of over-education of handicraftsmen. And I apprehend that what is true for the ordinary hand-worker is true for the foreman. Activity, probity, knowledge of men, ready mother-wit, supplemented by a good knowledge of the general principles involved in his business, are the making of a good foreman. If he possess these qualities, no amount of learning will fit him better for his position; while the course of life and the habit of mind required for the attainment of such learning may, in various direct and indirect ways, act as direct disqualifications for it.

Keeping in mind, then, that the two things to be avoided are the delay of the entrance of boys into practical life, and the substitution of exhausted bookworms for shrewd, handy men in our works and factories, let us consider what may be wisely and safely attempted in the way of improving the education of the handicraftsman.

First, I look to the elementary schools now happily established all over the country. I am not going to criticise or find fault with them; on the contrary, their establishment seems to me to be the most important and the most beneficent result of the corporate action of the people in our day. A great deal is said of British interests just now, but, depend upon it, that no Eastern difficulty needs our intervention as a nation so seriously, as the putting down both the Bashi-Bazouks of ignorance and the Cosacks of sectarianism at home. What has already been achieved in these directions is a great thing; you must have lived some time to know how great. An education, better in its processes, better in its substance, than that which was accessible to the great majority of well-to-do Britons a quarter of a century ago, is now obtainable by every child in the land. Let any man of [my age go into an ordinary elementary school, and, unless he was unusually fortunate in his youth, he will tell you that the educational method, the intelligence, patience, and good temper on the teachers' part, which are now at the disposal of the

veriest waifs and wastrels of society, are things of which he had no experience in the costly middle-class schools; which were so ingeniously contrived as to combine all the evils and shortcomings of the great public schools with none of their advantages. Many a man, whose so-called education cost a good deal of valuable money and occupied many a year of invaluable time, leaves the inspection of a well-ordered elementary school devoutly wishing that, in his young days, he had had the chance of being as well taught as these boys and girls are.

But while, in view of such an advance in general education, I willingly obey the natural impulse to be thankful, I am not willing altogether to rest. I want to see instruction in elementary science and in art more thoroughly incorporated in the educational system. At present, it is being administered by dribblets, as if it were a potent medicine, "a few drops to be taken occasionally in a teaspoon." Every year I notice that that earnest and untiring friend of yours and of mine, Sir John Lubbock, stirs up the government of the day in the House of Commons on this subject; and also that, every year, he and the few members of the House of Commons, such as Mr. Playfair, who sympathise with him, are met with expressions of warm admiration for science in general, and reasons at large for doing nothing in particular. But now that [Mr. Forster, to whom the education of the country owes so much, has announced his conversion to the right faith, I begin to hope that, sooner or later, things will mend.

I have given what I believe a good reason for the assumption that the keeping at school of boys who are to be handicraftsmen beyond the age of thirteen or fourteen is neither practicable nor desirable; and as it is quite certain that, with justice to other and no less important branches of education, nothing more than the rudiments of science and art teaching can be introduced into elementary schools, we must seek elsewhere for a supplementary training in these subjects, and, if need be, in foreign languages, which may go on after the workman's life has begun.

The means of acquiring the scientific and artistic part of this training already

exists in full working order, in the first place, in the classes of the Science and Art Department, which are for the most part held in the evening, so as to be accessible to all who choose to avail themselves of them after working hours. The great advantage of these classes is that they bring the means of instruction to the doors of the factories and workshops; that they are no artificial creations, but by their very existence prove the desire of the people for them; and finally, that they admit of indefinite development in proportion as they are wanted. I have often expressed the opinion, and I repeat it here, that, during the eighteen years they have been in existence, these classes have done incalculable good; and I can say, of my own knowledge, that the Department spares no pains and trouble in trying to increase their usefulness and ensure the soundness of their work.

No one knows better than my friend Colonel Donnelly, to whose clear views and great administrative abilities so much of the successful working of the science classes is due, that there is much to be done before the system can be said to be thoroughly satisfactory. The instruction given needs to be made more systematic and especially more practical; the teachers are of very unequal excellence, and not a few stand much in need of instruction themselves, not only in the subjects which they teach, but in the objects for which they teach. I dare say you have heard of that proceeding, reprobated by all true sportsmen, which is called "shooting for the pot." Well, there is such a thing as "teaching for the pot"—teaching, that is, not that your scholar may know, but that he may count for payment among those who pass the examination; and there are some teachers, happily not many, who have yet to learn that the examiners of the Department regard them as poachers of the worst description.

Without presuming in any way to speak in the name of the Department, I think I may say, as a matter which has come under my own observation, that it is doing its best to meet all these difficulties. It systematically promotes practical instruction in the classes; it affords facilities to teachers who desire to learn their business thoroughly; and

it is always ready to aid in the suppression of pot-teaching.

All this is, as you may imagine, highly satisfactory to me. I see that spread of scientific education, about which I have so often permitted myself to worry the public, become, for all practical purposes, an accomplished fact. Grateful as I am for all that is now being done, in the same direction, in our higher schools and universities, I have ceased to have any anxiety about the wealthier classes. Scientific knowledge is spreading by what the alchemists called a "distillatio per ascensum;" and nothing now can prevent it from continuing to distil upwards and permeate English society, until, in the remote future, there shall be no member of the legislature who does not know as much of science as an elementary school-boy; and even the heads of houses in our venerable seats of learning shall acknowledge that natural science is not merely a sort of University back-door through which inferior men may get at their degrees. Perhaps this apocalyptic vision is a little wild; and I feel I ought to ask pardon for an outbreak of enthusiasm, which, I assure you, is not my commonest failing.

I have said that the Government is already doing a great deal in aid of that kind of technical education for handicraftsmen which, to my mind, is alone worth seeking. Perhaps it is doing as much as it ought to do, even in this direction. Certainly there is another kind of help of the most important character, for which we may look elsewhere than to the Government. The great mass of mankind have neither the liking, nor the aptitude, for either literary, or scientific, or artistic pursuits; nor, indeed, for excellence of any sort. Their ambition is to go through life with moderate exertion and a fair share of ease, doing common things in a common way. And a great blessing and comfort it is that the majority of men are of this mind; for the majority of things to be done are common things, and are quite well enough done when commonly done. The great end of life is not knowledge but action. What men need is, as much knowledge as they can assimilate and organize into a basis for action; give them more and it may become injurious.

One knows people who are as heavy and stupid from undigested learning as others are from over-fulness of meat and drink. But a small percentage of the population is born with that most excellent quality, a desire for excellence, or with special aptitudes of some sort or another; Mr. Galton tells us that not more than one in four thousand may be expected to attain distinction, and not more than one in a million some share of that intensity of instinctive aptitude, that burning thirst for excellence, which is called genius.

Now the most important object of all educational schemes is to catch these exceptional people and turn them to account for the good of society. No man can say where they will crop up; like their opposites, the fools and knaves, they appear sometimes in the palace and sometimes in the hovel; but the great thing to be aimed at, I was almost going to say the most important end of all social arrangements, is to keep these glorious sports of Nature from being either corrupted by luxury or starved by poverty, and to put them into the position in which they can do the work for which they are specially fitted.

Thus, if a lad in an elementary school showed signs of special capacity, I would try to provide him with the means of continuing his education after his daily working life had begun; if, in the evening classes, he developed special capabilities in the direction of science or of drawing, I would try to secure him an apprenticeship to some trade in which those powers would have applicability. Or, if he chose to become a teacher, he should have the chance of so doing. Finally, to the lad of genius, the one in a million, I would make accessible the highest and most complete training the country could afford. Whatever that might cost, depend upon it the investment would be a good one. I weigh my words when I say, that if the nation could purchase a potential Watt, or Davy, or Faraday, at the cost of a hundred thousand pounds down, he would be dirt-cheap at the money. It is a mere common-place and every-day piece of knowledge, that what these three men did has produced untold millions of wealth, in the narrowest economical sense of the word.

Therefore, as the sum and crown of what is to be done for technical education, I look to the provision of a machinery for winnowing out the capacities and giving them scope. When I was a member of the London School Board, I said, in the course of a speech, that our business was to provide a ladder, reaching from the gutter to the university, along which every child in the three kingdoms should have the chance of climbing as far as he was fit to go. This phrase was so much bandied about at the time, that, to say truth, I am rather tired of it; but I know of no other which so fully expresses my belief, not only about education in general, but about technical education in particular.

The essential foundation of all the organization needed for the promotion of education among handicraftsmen will, I believe, exist in this country when every working lad can feel that society has done what lies in its power to remove all needless and artificial obstacles from his path; that there is no barrier, except such as exist in the nature of things, between himself and whatever place in the social organization he is fitted to fill; and, more than this, that, if he has capacity and industry, a hand is held out to help him along any path which is wisely and honestly chosen.

I have endeavored to point out to you that a great deal of such an organization already exists; and I am glad to be able to add that there is a good prospect that what is wanting will, before long, be supplemented.

Those powerful and wealthy societies, the livery companies of the City of London, remembering that they are the heirs and representatives of the trade guilds of the Middle Ages, are interesting themselves in the question. So far back as 1872 the Society of Arts organized a system of instruction in the technology of arts and manufactures, for persons actually employed in factories and workshops, who desired to extend and improve their knowledge of the theory and practice of their particular avocations;* and a considerable subsidy was liberally granted in aid of the efforts of the Society by the Clothworkers' Company. We

* See the "Programme" for 1878, issued by the Society of Arts, p. 14.

have here the hopeful commencement of a rational organization for the promotion of excellence among handicraftsmen. Quite recently, other of the livery companies have determined upon giving their powerful and, indeed, almost boundless aid to the improvement of the teaching of handicrafts. They have already gone so far as to appoint a committee to act for them; and I betray no confidence in adding, that, some time since, the committee sought the advice and

assistance of several persons, myself among the number.

Of course I cannot tell you what may be the result of the deliberations of the committee; but we may all fairly hope that, before long, steps which will have a weighty and a lasting influence on the growth and spread of sound and thorough teaching among the handicraftsmen* of this country will be taken by the livery companies of London.—*Fortnightly Review*.

DAVID GARRICK.

THE Garrigues, the original form of the name, were of French extraction. The grandfather of the great actor was a refugee driven over to England by the revocation of the edict of Nantes. A son of his, an officer in the English army, married the daughter of a Lichfield parson, of Irish extraction, and one offspring of this marriage was David Garrick, born at Hereford, where his father, Captain Garrick, was then quartered, on February 19, 1716. The blood of three nationalities—French, Irish, English—was about equally mixed in his veins. He was educated at the Lichfield Grammar School, which he entered just as another future celebrity, a companion of his—Samuel Johnson, some seven years his senior, was leaving it.

By the time he was eleven years of age David had begun to feel the prickings of his inborn vocation, and had organised a company of juvenile players for the performance of Farquhar's 'Recruiting Officer,' in which he himself acted Kite, and one of his sisters the Chambermaid. A stop, however, was about this time put to such diversions by a summons from his Uncle David, a wine merchant settled in Portugal, who proposed to take him into the business, and at eleven years old little David made the voyage to Lisbon, alone. But it is to be supposed that the business did not suit him, as in less than a twelvemonth we find him back in England entertaining his good Lichfield friends with more amateur performances.

About four years afterwards his father, who had long since retired on half-pay, exchanged with a captain who had been ordered to Gibraltar. He left his wife,

inconsolable at his loss, and his children at home. David, probably in virtue of his superior shrewdness and talents, for the other brothers were but poor drones, seems to have taken his father's place, and to have managed all the family affairs—at least he conducted the correspondence with the captain, made known all the little domestic wants, and arranged all the money matters. These letters have been preserved and are now in the Foster Collection at South Kensington. Although written by a mere boy, they are full of cleverness and vivacity, as well as suggestive of the *res angusta domi* of a poor officer's household. There are stories of clamorous creditors, of pinchings to pay, of old patched clothes, of children almost in rags, and all the shifts of genteel poverty. Such memories made of David a thrifty man in after-years; they bitterly taught him the value of every coin, and engendered that yearning after and clinging to money born of the want of it: a man of noble, generous soul is seldom the product of a youth of privation.

The bright-eyed, clever, vivacious boy was a welcome guest at all the best houses, and more particularly at the officers' mess, in the little remote cathedral garrison town. More than one colonel offered him a cornetcy, which it is strange he did not accept—unless his secret mind was already bent upon the sock and buskin. When his father returned after a four years' absence, it was

* It is perhaps advisable to remark that the important question of the professional education of managers of industrial works is not touched in the foregoing remarks.

thought time to decide upon a profession for him; upon some deliberation the bar was chosen, and it was determined he should at once proceed to London and enter himself at one of the Inns of Court.

In 1736 there appeared an advertisement in the *Gentleman's Magazine*, setting forth that Samuel Johnson boarded and taught young gentlemen the Latin and Greek languages at Edial, near Lichfield. His only pupils were David and his brother George, and a young gentleman named Offely. The academy was neither profitable nor to the master's taste, and he was writing a tragedy—the ponderous ‘Irene’—which was to make his fortune and immortalise his name.* Thereafter Garrick would tell how he and others used to watch the pedagogue through the keyhole of his chamber door at night sitting by the bed composing this work, declaiming the long-winded speeches and in his excitement tucking in the bed-clothes as though he were already in bed. Well, Samuel, tired of pedagogism and obscurity, resolved, just about the same time as his pupil's lot in life was determined upon, to try his fortune in London, and it was agreed they should go together. Mr. Walmsley, a mutual friend, gave them a letter of introduction to the Reverend John Colson of Rochester, a very learned man. (Johnson has drawn his character under the name of Gelidus in *Rambler* No. 24.) Garrick was to be his pupil and board and lodge with him; his companion was recommended as a good scholar and one who might turn out “a fine tragedy writer,” and whom, perhaps, he might assist to some literary employment. So to London they went, with, as the story goes, a horse between them, each riding and walking a stage alternately. In due time they arrived, “I,” said Johnson one day, years afterwards, “with two-pence halfpenny in my pocket, and thou,

Davy, with three halfpence in thine.” This was undoubtedly an exaggeration in David's case—the captain would not have permitted his son to enter upon the world so scantily provided—though it might have been true in Sam's; but that despiser of players would not allow, even when it was reduced to a question of pence, his *compagnon de voyage* to have the best of it.

And so David Garrick and Samuel Johnson cast themselves upon the great world of London, the one to fight for the prizes of life as a barrister, the other to win fortune as a play-writer. Such stories were very common in that age, especially the latter. How many young fellows before and after had—and would thrust some leaden, turgid poem or play, that had excited the wonder and admiration of rustic society, into their pockets, and full of golden dreams shouldered a change of clothes upon the end of a stick and trudged on cheerfully to the great metropolis, there to be lost in ruin and misery, or to return home to more prosaic employments, sadder and wiser men?

While Johnson was making his round of the booksellers in search of employment, Davy was pursuing his studies under the Reverend John Colson at Rochester, and making occasional journeys to town to visit his darling theatres, after each of which his prospective profession became more and more unendurable to him. Little thought the actors that there sat in one corner of the pit an obscure young country fellow who was noting their shortcomings, and thinking how differently he would act, and who was destined to sweep away all the mouthing, strutting, sing-song traditions of their effete school and bring about a marvellous revolution in their art. There is no doubt that even at this period his whole soul was absorbed by such thoughts, and only consideration for the prejudices of his family withheld him from thrusting himself upon the stage.

He had left Lichfield but a few weeks when the sad news of his father's death was brought to him. And soon afterwards his uncle, the Lisbon wine merchant, who had come over to England, also died, bequeathing him £1000. His brother Peter, who had begun life as a

* When David became a lessee of Drury Lane, he accepted and produced this play out of friendship for the author, and ran it nine nights in order that he might make some profit by it; but even such actors as Garrick, Barry, Mrs. Cibber, and Mrs. Pritchard could not vivify this mass of dulness. Johnson was very sore upon the point, and it is probable that much of his scorn for players, and his pique against Garrick in particular, were born of this failure.

midshipman, sank the little money the captain had left him in a wine business, and proposed that David should join him. Anything was better to his taste than the law, so he threw away his books and exchanged the bar for the cellar. The business was to be carried on both in Lichfield and London: Peter was to conduct the country branch, David the town. The cellars were in Durham Yard, upon the site of which the Adelphi Terrace was afterwards raised. "He lived with three quarts of vinegar in a cellar, and called himself a wine merchant," said spiteful Foote.

But Davy could no more give his mind to wine than he could to the law. The London of 1738 was very different to the dull, nondescript Temple of Mammon it has become to-day. Between St. Paul's Cathedral and St. Martin's church there lay a region where business, that leaden-headed fetish of this enlightened age, was not supremely worshipped; and where brains, astounding as the assertion may sound to the rising generation, were esteemed more than gold; it was the region of wits, authors, actors, books, theatres, coffee-houses, and taverns—a delightful region quite Parisian in its gaiety. All the wit and genius of England were to be found in the coffee-houses and taverns of Fleet Street and Covent Garden, forming a society as brilliant and more diverse than that of the French *salons*. But it was oligarchical; the vulgar mob, kept within its proper bounds, had not yet overflowed into and profaned every place of public resort so as to drive the refined into the exclusiveness of dull clubs or home life. The country gentleman who spent an evening at the Bedford or the Mitre had a memory of delight for the remainder of his life, and his less fortunate friends never wearied of listening to the descriptions of the celebrities he had seen there, and the witty things he had heard from their lips. Such was the society into which David Garrick eagerly pushed his way and was well received; he was full of fire and spirit, he was not destitute of wit, and could already give excellent imitations of the marked peculiarities of the actors of the day. He made the acquaintance of a young player named M'Laughlin, afterwards so well known as Charles Macklin,

who, like himself, was burning to reform the then style of acting. They became inseparable companions, and were to be seen at all times of the day walking up and down beneath the Covent Garden Piazzas, discussing their theories; or at the Bedford at night, after the play, in company with another young fellow, one Samuel Foote, who was floating about among wits and players, spending his fortune as fast as he could, to be by-and-by enrolled a chief among both.

As may be supposed, the wine business did not flourish beneath such habits as those of the London partner, and fell into difficulties. A year after his father's death (1738) David lost his mother, who, it is said, died of pure grief for the husband on whom she doated. The last great obstacle to his wishes was now removed; but still, for want of an opening, he delayed the inevitable step. Johnson, who was then writing for the *Gentleman's Magazine*, introduced him to Cave, and in some way or other there was an amateur performance of Fielding's 'Mock Doctor' got up in the room over St. John's Gate, in which Garrick took a part and made his first appearance before a London audience. After this he wrote erotic verses for the *Magazine*, which may still be distinguished by the signature "G.," and criticisms upon the theatre. He obtained the *entrée* to Drury Lane, wrote the first draught of his farce called 'Lethe,' and fell in love with beautiful Peg Woffington, who made her London *début* in 1740. Poor wine business!

Among his other theatrical friends was Giffard, the manager of the Ayliffe Street Theatre in Goodman's Fields, built in 1732 upon the site of a silk-throwster's shop, which had been previously used for dramatic entertainments. Through the interference of the Puritan city and the new licensing act, however, the performance of stage plays at this house was illegal, and could only be accomplished by the *ruse* of issuing tickets for a concert and giving the play gratis. One night, during the run of a pantomime called 'Harlequin Student,' Yates, the harlequin, was taken so ill that he could not appear. Garrick, who was behind the scenes at the time, offered to take his place; the offer was accepted, and so it was he made his

first bound upon the regular stage. And it must be remembered that the harlequin of those days was not the mere jumping Jack he is now; he was the hero of the pantomime, had to act and sometimes speak. How he acquitted himself in a rôle for which his nimbleness and vivacity well suited him is not recorded, but immediately afterwards Giffard engaged him for Ipswich, where, under the name of Lydgate, he appeared as Aboan in Southern's 'Oroonoko'; then as Chamont in Otway's 'Orphan,' and Sir Harry Wildair in Farquhar's 'Constant Couple.'

All this time poor Peter was living with his three quarts of vinegar at Lichfield, in happy ignorance of his partner's doings, though a little troubled over the increasing difficulties of the firm. But the blow was coming fast. Upon his return to London, David seems to have applied for an engagement at both the patent houses. Finding no chance there, he was obliged to choose a humbler scene for his appearance in the metropolis, the unlicensed theatre in Goodman's Fields, where he made his *début* on October 19, 1741.

I subjoin a verbatim copy of a portion of the play-bill for that night, so momentous in stage annals, as a curiosity.

OCTOBER 19, 1741.

At the Theatre in GOODMAN'S FIELDS, this day will be performed,

A Concert of Vocal and Instrumental Music,
divided into two parts.

Tickets at Three, Two, and One Shilling.

Places for the Boxes to be taken at the Fleece Tavern, near the Theatre.

N.B.—Between the two Parts of the Concert will be presented an Historical Play, called the

LIFE AND DEATH OF

KING RICHARD THE THIRD,

Containing the distresses of Henry 6th,

The Artful Acquisition of the Crown by King Richard,

The Murder of young King Edward 5th and his Brother in the Tower, The Landing of the Earl of Richmond,

And the Death of King Richard in the memorable Battle of Bosworth Field, being the last that was fought between the houses of York and Lancaster, with many other true Historical passages.

The part of *King Richard* by a YOUNG GENTLEMAN

(Who never appeared on any Stage)

Then follows the cast of characters, an announcement of an

Entertainment of Dancing, to conclude with a Ballad Opera called

THE VIRGIN UNMASKED,

both of which will be performed Gratis, by persons for their diversion.

The Concert will begin exactly at 6 o'clock.

The *débutant* had many of his tavern and coffee-house friends in front, among others Macklin and "Gentleman" Smith. From his first soliloquy the audience could perceive that a new light had burst upon the stage; there was no drawl, no sing-song, no mouthing, all was new, natural, full of fire and passion; some of the points literally electrified them; as when he dashed away the prayer-book after his interview with the Lord Mayor; his "Off with his head, so much for Buckingham"; his marvellous tent scene, his wild chaotic fury in the last act, which had always before been a piece of measured declamation, his savage fight, his terrible death, in which his cruel fingers seemed in their agony digging their own grave. No such acting lingered in any living memory. The *Daily Post* said next morning that his reception "was the most extraordinary and great that was ever known on such an occasion." Assured of success, he wrote at once to Peter, acquainting him with the step he had taken, and trying to make an apology out of the badness of their business, and from the fact that he could make £300 a year by his new profession, which was more than he could ever hope to draw from the wine trade. Peter, his brothers and sisters, and all Lichfield society, were of course horrified and outraged at a man sinking from the elevation of a poor tradesman to be an exponent of Shakespeare, and there were pitiful lamentations over the family disgrace. A few months afterwards,

when David had already become a great man, the disgraced family were not at all backward in requesting and receiving favors continually from such a disreputable source.

For some nights the receipts at Goodman's Fields did not average above £30 nightly; but the fame of the new actor was being rapidly spread. By-and-by came the rush, and the carriages extended from Temple Bar to Whitechapel. Pope was drawn from Twickenham to see this prodigy, and the sight of the little black figure in the boxes at first greatly disconcerted the actor. "That young man never had an equal, and will never have a rival," was the great poet's expressed opinion. Then came Pitt, who pronounced him to be "the only actor in England," and Halifax, Chesterfield, and Sandwich, who invited him to dine with them. His terms were increased from one pound a night to half the profits. Quin came to see him and called him the Whitfield of the stage, which was very appropriate; only his prophecy that the people would soon get tired of the novelty and go back to their church was not so happy. Soon the patent theatres, now deserted, were glad to make overtures to him, and he accepted an engagement for Drury Lane at £600 per annum for the ensuing season.

It was on December 2, 1741, that, dropping his fictitious name on the occasion of his benefit, he first appeared in the bills as David Garrick. He continued to play in the east until the 29th of May in the following year. From November to that time he appeared in nineteen different characters—Richard, Chamont, Lothario, the Ghost (in 'Hamlet'), Aboan, Lear, and Pierre, in tragedy. In comedy, amongst others, Fondlewife, Bayes, in the 'Rehearsal,' in which he gave his imitations of actors, Lord Foppington, Johnny the School-boy, Duretete, &c. At the end of the Drury Lane season he appeared for three nights to crowded houses as Richard, Bayes, and Lear.

During the summer he played at Dublin, where his success was as prodigious as it had been in London; so great was the crowd that an epidemic, the product of heat and dirt, broke out, which was called the Garrick fever. There he was

given the name of Roscius. During an engagement of two months he took three benefits; for the last he appeared as Hamlet for the first time. This, according to contemporary accounts, must have been a very beautiful performance, full of refinement and sensitiveness. Partridge's immortal criticism will occur to every reader of Fielding.

"You may call me a coward if you will, but if that little man there upon the stage is not frightened, I never saw a man frightened in my life . . . Did you not yourself observe afterwards when he found out it was his father's spirit, and how he was murdered in the garden, how his fear forsook him by degrees, and he was struck dumb with sorrow, as it were, just as I should have been had it been my own case . . . He the best player! why, I could act as well as he myself. I am sure if I had seen a ghost I should have looked in the same manner, and done just as he did."

He introduced many new readings and much new business, that were eagerly discussed at the time, but which remained orthodox until Fechter swept them away.

Upon returning to London he, Macklin, and Woffington kept house together at No. 6 Bow Street, each undertaking the management for a month. The partnership did not long endure; Peggy's extravagances not being acceptable to careful David. It is now we begin to hear stories of his meanness and avarice, upon which Foote and so many others exercised their wit and their malice throughout his life—and after it. "Peggy made the tea too strong," says one. Well, it is impossible for a man to ever shake off his early impressions; in the old Lichfield time, when the captain was away in Gibraltar, the tea had doubtless to be eked out—it was an expensive article then—and the question of even a few grains was one of importance in the needy officer's family; David had not forgotten those days, and could not endure wastefulness, more honor to him. There is another story told of his walking up and down before his house one evening with some person of great importance from whom he could not break away abruptly, and seeing through the dining-room window a thief in one of the candles guttering it down to the socket, and of the almost agony he endured at the sight. The anecdote is

told as an illustration of his meanness; but would it not be more just to ascribe it to his horror of waste? So thought Johnson, and no man was at times more harsh and bitter in his judgment of the player who had outstripped him on the road to fame and fortune. "I know," he said, defending him against Wilkes, who said he would play Scrub all his life—"I know that Garrick has given away more money than any man in England that I am acquainted with; and that not from ostentatious views. Garrick was very poor when he began life; so, when he came to have money, he probably was unskilful in giving away, and saved when he should not. But Garrick began to be liberal as soon as he could." The authentic anecdotes of his generosity far outnumber those of his meanness, for which Foote's jests are the chief authority. But truth was never considered to be a necessary element of those utterances, and the man who had run through three fortunes himself was not qualified to be a judge of such matters. Once when he was asked to give two guineas to a poor widow, he answered, "No, I cannot do that." "Well then, what you please," replied the solicitor. And Garrick gave him thirty pounds. He lent a poor surgeon once a thousand pounds without security, and never got back a farthing. Foote had frequently experienced his generosity, and was never refused a loan. While he was holding the 'Jubilee' up to ridicule, its author was using his best influence for him with newspaper editors and proprietors, and advancing him money to meet heavy demands. Foote was dastardly enough to ascribe these actions to fear of his pen and his mimicry. Yet when crushed beneath Jackson's and the Duchess of Kingston's prosecution he was far more pitiable than formidable, when Garrick might have safely avenged himself for the many insults he had received, he stood by him, his firmest friend, and wrung from the bitter cynic a letter of tearful gratitude. "God for ever bless you—may nothing but halcyon days and nights crown the rest of your life, is the sincere prayer of Samuel Foote." It would be impossible to strengthen such testimonies as these of Johnson and Foote to his excellence of heart. The Drury Lane Fund for de-

cayed actors is a noble instance of his munificence. It was first started under his management, and his various donations to it amounted to nearly five thousand pounds. And after his death it was found he had a whole host of small annuitants. It might have vexed David Garrick to have tea unnecessarily strong, or to have seen "a thief" guttering his candle, or to have uselessly squandered a halfpenny, but he could be princely generous for all that.

"Ah, I would wish the world to believe," writes Cumberland, "that they take but a very short and partial estimate of that departed character who only appreciate him as the best actor in the world. He was more and better than that excellence alone could make him by a thousand estimable qualities, and much as I enjoyed his company, I have been more gratified by the emanations of his heart than by the sallies of his fancy and imagination."

But I am going too fast: David is not a rich man yet, and has not much to spare for generous deeds, although his poor disgraced family are very clamorous for him to do something for their children.

Even in this first springtime of his popularity he was to experience the fickleness of public favor in his quarrel with Macklin, an account of which I shall reserve for my paper on that actor. In the following season Garrick made a great hit by his revival of *Shakespeare's* 'Macbeth.' "What, haven't I been playing *Shakespeare's* 'Macbeth'?" cried Quin. Indeed he had not, but a garbled version of the text very little resembling the original. *Macbeth* was a part then little esteemed by tragedians; it was Garrick who first developed, theatrically, its marvellous power. He had not yet Mrs. Pritchard for his lady. How wonderfully those two acted together in that wonderful play, although he did act the thane in scarlet coat and white wig, has been described too frequently to call for special mention.*

* Never was man more cautious of offending the conservative predilections of an English audience. When, thereafter, it was proposed to him that he should dress *Macbeth* in Highland costume, he answered, "You forget the Pretender was here only thirty years ago, and, egad, I should be pelted off with orange peel." When West the painter remonstrated with him on playing *Horatius* in a dressing-gown and peruke, instead of a toga, he re-

His Othello, however, was a failure. His appearance was against him; his black face—for the Moor was a nigger in those days—and his small figure clad in the scarlet uniform of a British officer must have produced rather a comic *coup d'œil*. Quin was in the pit on the first night, and when he entered exclaimed loud enough to be heard upon the stage, "Here's Pompey, by —, where's the lamp and the tea-kettle?" (alluding to Hogarth's black boy). In the next season Barry came with his splendid and majestic figure and drew all London to see him as the noble Moor. Upon which Garrick very wisely abandoned the part.

A most disastrous season for the theatres was the year of the rebellion. Garrick paid a second and last visit to Dublin, and did not appear in London until the May of '46, when he played at Covent Garden for six nights at £50 a night. It was during this Irish engagement the first met his future great rival, Spranger Barry; the affairs of the Dublin theatre were embarrassed, and salaries were not paid. Garrick lent him money. "You are my guardian angel!" wrote the distressed actor.

But in the days of fierce rivalry which were soon to come he had little memory of the obligation, and abused his benefactor as heartily as anybody. Yet to Garrick's high eulogiums upon his acting he partly owed his engagement at Drury Lane the next season. David went to Covent Garden. It was the most critical, indeed the turning-point of his career. Barry was drawing crowds by his Othello, Lord Townly, Macbeth, &c., and now he, Garrick, was to be pitted against Quin upon the same boards, the two styles of acting were to be brought face to face, put upon their trial, and judgment to be pronounced. It was the battle of the old and new

school, and no quarter would be given. The excitement was enormous. The theatre was an institution in those days, and its wars and rivalries were to intellectual London a subject of almost as much importance as had been the Scottish rebellion. It was on the 14th of November 1746, in Rowe's 'Fair Penitent,' the duel took place. Cumberland, then a youth, was present, and has bequeathed us a most graphic picture of the event.

"I have the spectacle even now before my eyes. Quin presented himself, on the rising of the curtain, in a green velvet coat, embroidered down the seams, an enormous full-bottomed periwig, rolled stockings, and high-heeled, square-toed shoes. With very little variation of cadence, and in a deep full tone, accompanied by a sawing kind of action, which had more of the senate than the stage in it, he rolled out his heroics with an air of dignified indifference, that seemed to disdain the plaudits that were bestowed upon him. Mrs. Cibber, in a key high-pitched but sweet withal, sung, or rather recitatively Rowe's harmonious strain, something in the manner of the Improvisatores; it was so extremely wanting in contrast, that, though it did not wound the ear, it wearied it. When she had once recited two or three speeches, I could anticipate the manner of every succeeding one; it was like a long old legendary ballad of innumerable stanzas, every one of which is sung to the same tune eternally, chiming in the ear without variation or relief. Mrs. Pritchard was an actress of a different cast, had more nature, and of course more change of tone, and variety both of action and expression; in my opinion the comparison was decidedly in her favor; but when after long and eager expectation I saw little Garrick, then young and light, and alive in every muscle and in every feature, come bounding on the stage, and pointing at the wittol Altamont and heavy-paced Horatio—heavens, what a transition!—it seemed as if a whole century had been swept over in the transition of a single scene; old things were done away, and a new order at once brought forward, bright and luminous, and clearly destined to dispel the barbarisms and bigotry of a tasteless age, too long attached to prejudices of custom, and superstitiously devoted to the illusions of imposing declamation. This heaven-born actor was struggling then to emancipate his audience from the slavery they were resigned to, yet in general they seemed to love darkness better than light, and in the dialogue of altercation between Horatio and Lothario bestowed far the greater show of hands upon the master of the old school than upon the founder of the new."

After this the two rivals appeared as Falstaff and Hotspur; here Quin had the best, for his fat knight was a great performance, and Percy was not one of

plied in the same strain, "I don't want my house pulled about my ears; Quin dressed it so, and I dare not innovate." It was a pity, however, he was not more timid of innovation on more important points; as when he prepared a version of 'Hamlet' in which he omitted Osric and the Gravediggers. "I had sworn," he said, "I would not leave the stage until I had rescued that noble play from all the rubbish of the fifth act." And yet in his day he was regarded as an idolater of Shakespeare.

Garrick's successful parts. But in 'Jane Shore' the tables were again turned: Quin strutted and bellowed through Glo'ster, but Garrick played Hastings superbly, and it continued to be one of his finest impersonations. That splendid comedy too, 'The Suspicious Husband,' gave him an opening for such comedy-acting as had never been witnessed before in that generation. Nothing more dashing, vivacious, and artistic than his Ranger could be conceived.

The next year he went into partnership with Lacy, in the Drury Lane Patent. He had come off best against Quin; he now entered the lists against the man who was dividing with him the favor of the town—Spranger Barry. It was a grand company: Garrick, Barry, and Macklin, the leading men; Mrs. Pritchard, Mrs. Cibber, Mrs. Woffington, Mrs. Clive, were among the ladies. Quin had retired in disgust, Macklin was the Shylock, Barry the Hamlet, Othello, Pierre, Garrick the Archer, Abel Drugger, Lear, Richard, Sir John Brute, Hamlet, Macbeth; and the two appeared together as Chamont and Castalio ('The Orphan'), Lothario and Horatio ('Fair Penitent'), Jaffier and Pierre ('Venice Preserved'). How one envies one's ancestors who beheld these splendid intellectual contests! The next season witnessed the revival of 'Romeo and Juliet' with Barry and Mrs. Cibber, but it was played only once: the *furor* was to come. Garrick's great triumph was Benedick, with Mrs. Pritchard as Beatrice—two splendid performances. That year he married the beautiful Mdle. Violetta, the dancer, the *protégé* of my lord and lady Burlington. There was plenty of romance and mystery about this young lady. She had come over from Vienna a few years previously disguised as a boy, and made her *début* at the Opera House in the Haymarket. She was immediately taken under the protection of Lady Burlington, whose daughters used to frequently stand at the wings with wraps to throw round her when she came off from her dance. Her *début* had been patronised by the King himself, and the noblest houses were thrown open to her. Some said she was a natural daughter of Lord Burlington's whom he had discovered while

travelling abroad from her likeness to her mother, a lady to whom he had been devotedly attached; others that she was the illegitimate offspring of some noble Austrian. Be this as it may, she was received in the best society. Seeing Garrick play one night she fell desperately in love with him, they met in society, and afterwards in secret. But Lady Burlington was violently opposed to the match; the story of Robertson's play of 'David Garrick' is said to be founded upon an incident of this love-affair; but the real catastrophe was very different to the fictitious one; for the Countess, touched by the actor's generous self-sacrifice, gave her consent to the marriage. £10,000 were settled upon the bride—£6000 by the Burlingtons, £4000 by Garrick himself. They took up their abode in Southampton Street, Strand, a not unfashionable neighborhood then. The house is still standing, No. 27, and the little back room in which they used to breakfast is said to be little changed.

1750-51 was the celebrated 'Romeo and Juliet' season. Barry and Mrs. Cibber had withdrawn to Covent Garden. Barry insinuated in a prologue that they had been driven from Drury Lane by Garrick's arrogance and selfishness—the latter might well have retorted the accusation. It was now Quin *versus* Barry, and as the veteran received £1000 for his services that season he does not seem to have come off worst. On the 28th of September 1750, 'Romeo and Juliet' was performed at both houses. At Covent Garden, Barry was the Romeo, Macklin the Mercutio, Mrs. Cibber the Juliet. At Drury Lane the parts were sustained by Garrick, Woodward, and Mrs. Bellamy. All the town was divided between these rival claims. Barry's noble presence, handsome face, and silver-toned voice gave him great personal advantages; the balcony scene of this most exquisite of stage lovers was unapproachable; but Garrick excelled in the scene with the Friar. "Had I been Juliet to Garrick's Romeo," said a lady critic, "so impassioned was he that I should have expected he would have come up to me. But had Barry been my lover, so seductive was he that I should certainly have jumped down to him."

Of the Juliets Mrs. Cibber was more passionately pathetic; Bellamy more lovely, more impulsive, more natural.

Barry played Romeo twelve nights, Garrick thirteen; the town was astounded at this prodigious run, and wrote epigrams upon it.

"Well, what's to night?" says angry Ned,
As up from bed he rouses;
'Romeo again!' he shakes his head,
'A plague on both your houses!'"

Six years later the rivalry of the two great actors in *King Lear* created an equal excitement. The palm had decidedly been given to Barry's Romeo, the best proof of which is that Garrick afterwards omitted it from his *role*, but in *Lear* the victory was as decidedly Garrick's. It was probably his sublimest effort in tragedy. His curse was so awful that it is said the audience shrank and cowered before it as from a blast of lightning; the mad scene was an inspiration, and in the overwhelming pathos of the last act the house resounded with the sobs of the audience. One night even one of the sentinels, who were then placed on each side the proscenium during the performance, was seen weeping at his post. That most marvellous of all Shakespeare's conceptions had never before and certainly has never since found such a delineator.

Two epigrams of the many passed about on the occasion are admirably suggestive of the styles of the two great actors.

"The town has found out different ways
To praise the different Lears!
To Barry they give loud huzzas!
To Garrick—only tears."

"A king—nay, every inch a king,
Such as Barry doth appear;
But Garrick's quite a different thing,
He's every inch King Lear."

During these contests we never hear of an ill-natured remark uttered by Garrick, although his rival never omitted an opportunity to cast malice and detraction upon him.

Turn we aside for a moment from the glitter and noise and envy of the stage to glance at the home life of the actor, of which Mr. Fitzgerald, in his admirable '*Life*,' presents us with several charming pictures. In 1754 he purchased a villa at Hampton, on the edge of the common. "About it were pretty

grounds, though separated by the high road from the pleasant sward that ran down to the river's edge, where, within a year, he was building that little bit of affectation more fitted to Drury Lane than to the little country villa—the Shakespeare Temple." Hither came the vicar, "an old clergyman of simple tastes," whom the player's kind interest procured something better than his Hampton living of £50 a year—to chat with Mrs. Garrick over gardening matters.

"Sir John Hawkins would drop in on his road to town, and find the owner and Mrs. Garrick eating figs in the garden. Here, too, guests found their way down to spend the day and dine, and after dinner wandered into the gardens and lounged about the grounds. To them was present the figure of their host in his dark blue coat, its button-holes bound with gold edging, the small cocked hat also edged with lace—and the waistcoat free and open. The face and features were never at rest a moment. He would be sitting on the edge of the table, chatting on grave subjects to a doctor of law or music, when the wonderful eyes, darting to this side and that, would see the little boys of his guest scampering gaily round his garden, and he would shoot away in the midst of a sentence, join them, and be a boy himself in a second."

He loved children, although he had none of his own. During the run of the '*Jubilee*' he ordered a nightly distribution of tarts to the little ones who played the fairies, and used to delight in watching their enjoyment of them. Cumberland relates how he would imitate turkey-cocks, peacocks, and water-wagtails for the amusement of his children. Here is a reminiscence of childhood by the younger Colman.

"I always ran about his gardens, where he taught me the game of trap ball. He practised too, a thousand monkey tricks upon me; he was Punch, harlequin, a cat in a gutter, then King Lear, with a mad touch that at times almost terrified me; and he had a peculiar mode of flashing the lightning of his eye, by darting it into the astonished mind of a child, as a serpent is said to fascinate a bird; which was an attribute belonging only to this theatrical Jupiter."

In 1758, finding his power of attraction waning—the houses are said to have fallen as low as thirty, fifteen, and one night five pounds—he resolved to retire for a time and recruit his health, by no means good, by a tour of the Continent. At Paris he was received at all the *salons*

with the greatest honor. There he gave some specimens of his power that filled the spectators with wonder and admiration. Grimm wrote enthusiastically of him, Marmontel pronounced his to be the only real style of acting—"You will be to me," he said, "a continual subject of regret."

"He would sometimes favor some few friends," says Charles Dibdin, "but it was very rare—with what he called his rounds. This he did by standing behind a chair and conveying into his face every possible kind of passion, blending one into the other, and as it were shadowing them with a prodigious number of gradations. At one moment you laughed, at another you cried; now he terrified you, and presently you conceived yourself something horrible, he seemed so terrified at you. Afterwards he drew his features into the appearance of such dignified wisdom that Minerva might have been proud of the portrait; and then—degrading yet admirable transition—he became a driveller. In short his face became what he obliged you to fancy it; age, youth, plenty, poverty, everything it assumed."

There is a good story told in illustration of these powers. A Lichfield grocer had come up with a letter of recommendation to David from his brother Peter. Arriving in London in the evening, he went into the two-shilling gallery to see the wonderful actor of whom he had heard so much, intending to deliver his credentials next morning. But Garrick played that night Abel Drugger, and so disgusted the honest grocer that he would not go near him. "Well," he said to Peter on his return home, and giving him back the letter, "though Mr. Garrick be your brother, he is one of the shabbiest, meanest, most pitiful hounds I ever saw in the whole course of my life."

He gave one of his "rounds" in Paris. He began with the dagger scene of 'Macbeth,' thence to the 'Lear' curse, from that to Sir John Brute falling into his drunken sleep, and finished by representing a pastrycook's boy who had let fall a tray of tarts, stupid surprise, terror, and despairing grief succeeding each other with marvellous fidelity. Of his wonderful powers of facial expression, I could fill pages with contemporary anecdotes.

"Nature," says Cumberland, "had done so much for him that he could not help being an actor. She gave him a frame of so manageable a proportion, and from its flexibility so perfectly under command, that by its aptitude

and elasticity he could draw it out to fit any sizes of character that tragedy could offer to him, and contract it to any scale of ridiculous diminution that his Abel Drugger, Scrub, or Fribble could require of him to sink it to. His eye in the meantime was so penetrating, so speaking, his brow so movable, and all his features so plastic and so accommodating, that wherever his mind impelled them they would go, and before his tongue could give the text his countenance would express the spirit and passion of the part he was charged with."

He came back to London in 1766; he was not long in doubt as to his reception; he created a *furor* greater than all that had gone before, the house was nightly crammed to overflowing, and people of the highest condition bribed the attendants to admit them by a private door to avoid the terrible crush at the public entrance.

As the years passed on, he played less frequently, much of his time being spent in visits to the seats of the many noblemen and gentlemen who were proud to call him friend, until the advance of age, failing health, and above all the carplings of malicious critics, who began to tell him that he was too old for Ranger and Hamlet, warned him it was time to quit for ever the scene of his brilliant triumphs. The announcement of his farewell performances created a great sensation, people came up to town from all parts of the country—no small feat in those days—and even foreigners came over to England to witness them, the highest persons in the land fought at the thronged doors for admittance and very frequently failed. He played a round of all his great parts. "Last night," he writes in one place, "I played Abel Drugger for the last time. I thought the audience were cracked, they almost turned my brain." Hannah More, who came up from Bristol for these representations, says:—

"I pity those who have not seen him. Posterity will never be able to form the slightest idea of his perfection. The more I see him the more I admire. I have seen him within these three weeks take leave of Benedict, Sir John Brute, Kitely, Abel Drugger, Archer, and Leon. It seems to me as if I was assisting at the obsequies of the different poets. I feel almost as much pain as pleasure."

It was on the 10th of June 1776 that he made his last appearance as Don Felix, in 'The Wonder,' and never, it was said, did he play with more fire and energy, more lightness and animation.

Then in a short speech broken by tears he wished the audience farewell, and with a long and lingering gaze upon the vast concourse before him, scarcely a face of which but was bedewed with sympathetic tears, slowly retired. "Farewell—farewell!" echoed a hundred voices choked with emotion as he passed behind the curtain which was never again to rise upon him.

Not long did he enjoy his retirement. Within three years afterwards there was a magnificent funeral procession to Westminster Abbey; the line of carriages reached from the Strand to the Sacred Building; the streets were crowded with spectators; the Bishop of Rochester received the coffin, the Duke of Devonshire, the Earls Camden, Ossory, Spencer, and Lord Palmerston were pall-bearers; Burke, Fox, and other celebrities stood beside the grave that was ready to receive the mortal remains of the great actor. His brother George survived him but a few days. He had always been David's factotum, and his first inquiry on entering the theatre at night was, "Has David wanted me?" Some one was remarking upon the singularity of his dying so soon after his brother. "Oh," answered Bannister, who was by, "David wanted him." Of the respect in which Garrick was held a proof was given not long before his death. One night he was the sole occupant of the gallery of the House of Commons during a fierce discussion between two members; one of whom moved that he should be ordered to withdraw. Burke sprang up indignantly and opposed the motion to expel the man who, he said, had taught them all they knew; Fox and Townshend followed in the same strain, calling him their preceptor.

Those who would understand how he acted some of his great characters I refer to the early numbers of the *Victoria*

Magazine, in which Mr. Tom Taylor published a translation of the celebrated Lichtenberg criticisms. I have no space to even glance at his literary productions, his several original plays, his many adaptations of Shakespeare, his numerous copies of verses which he was ever sending his lady friends upon every possible occasion, and upon every possible incident. I will conclude with a passage from Charles Dibdin's 'History of the Stage,' in which he draws a picture of Garrick's personal characteristics with a most graphic if severe pencil:—

"Whether he condescended at his own levée to smile at a borrowing actor who was praising his poetry, cut jokes with Beckett the bookseller, explain an unintelligible passage to Phil Butler the carpenter, blame Hopkins the prompter for having the gout because he was at the expense of chair hire, rebuke Messink, the pantomime trick maker, for attempting to be witty like him, chuckle at newspaper criticisms that he intended to buy off, or burn cards and letters of dukes, lords, judges, and bishop to strike his dependants with awe and admiration. Whether at court he honored men of title with the hopes of bolstering up the reputation of some dramatic brat produced with the assistance of the chaplain, whether ladies were promised that their friends should be disappointed of boxes that had never been let, or that the new fashion they last produced should be noticed in the next epilogue, or that an epitaph on a favorite parrot should grace the toilet-table, or whether he appeared distressed that he could not be set down by an ambassador because he had given a prior promise to a countess dowager. Whether at the rehearsal of a piece, his own, he demanded an acknowledgment that every passage was the acme of perfection, or at the rehearsal of a piece not his own he himself allowed praise in proportion as he was permitted to make alterations; or, to be brief, in whatever manner by managing, not the mind, for many of them were too ponderous for him to wield, but the tempers of men, both of the first worldly and professional distinction, he so played his part as to be courted, caressed, admired, and looked up to by rank and talent, with very slight pretensions to the character of eminent abilities himself, otherwise than as an actor."

—Temple Bar.

YOUNG MUSGRAVE.

BY MRS. OLIPHANT.

CHAPTER XXXVI.

THE BEGINNING OF THE END.

GEOFF took the children home without let or hindrance. There was no inn near

where they could pass the night; and as he had no legitimate right to their custody, and was totally unknown and very young, and might not awaken any lively faith in the bosom of authority as against

the schoolmaster or the uncle, he thought it wisest to take them away at once. He managed to get some simplest food for them with difficulty—a little bread and milk—and made them lie down, propped amid the cushions of a first-class carriage, which was to be hooked on to the evening train when it arrived. Before they left the little station, he had the satisfaction of seeing Randolph Musgrave arrive, looking sour and sullen. Geoff did not know that Randolph had done anything unkind to the children. Certainly it was none of his fault that Liliás was there; but what good partizan ever entered too closely into an examination of the actual rights and wrongs of a question? Randolph might have been innocent—as indeed he was—of any downright evil intention; but this availed him nothing. Geoff looked out of the window of his own carriage as they glided away from the station, and gazed with intensest schoolboy pleasure on the glum and sour countenance of the churlish uncle, who, but for his own intervention, might have wrought destruction to those new babes in the wood. He shivered when he thought of the two helpless creatures lying under the brambles, too frightened to move, and feeling to their hearts all the fantastic horrors of the darkness. Now, though still in movement, and undergoing still further fatigue, the absolute rest which had fallen upon their childish spirits from the mere fact that he was there, touched the young man to the heart. They were willing to let him take them anywhere; their cares were over. Nello had even made a feeble little attempt to shake his draggled plumes and swagger a little, sore and uncomfortable though he was, before he clambered into the carriage; and Liliás lay in the nest he had made for her, looking out with eyes of measureless content—so changed from those great, wistful, unfathomable oceans of anxiety and fear which had looked at him through the brambles! She put her hand into his as he settled himself in his corner beside her—the little soft child's hand, which he warmed in his strong clasp, and which clung to him with a hold which did not relax even in her dreams; for she went to sleep so, holding him fast, feeling the sense of safety glow over her in delicious warmth and ease. Through all the night, even when she slept, at every movement he made, her

soft fingers closed more firmly upon his hand. It was the child's anchor of safety; and this clinging, conscious and unconscious, went straight to Geoff's heart. In the dark, under the waning light of the lamp overhead, he watched the little face sinking into sleep, with now a faint little smile upon it—a complete relaxation of all the strained muscles—with a sensation of happiness which was beyond words. Sometimes, for the mere pleasure of it, he would make a movement wantonly to feel the renewed clasp of the little hand and see the drowsy opening of the eyes. "Are you there, Mr. Geoff?" she said now and then, with a voice as soft (he thought) as the coo of a dove. "Yes, my Lily;" he would say, with his heart swelling in his young bosom; and Liliás would drop to sleep again, smiling at him with sleepy eyes—in what ease and infinite content! As for Nello, he snored now and then out of very satisfaction and slumbering confidence; little snores, something between a little cherub's trumpet and the native utterance of the tenderest of little pigs—at that age when even little piggies, by reason of babyhood, have something cherubic about them too.

At midnight, at the great junction, a tall, sunburnt, anxious-faced man walked along the line of carriages, looking in with eager looks. "Are these your children?" he said to Geoff, seeing the two little figures laid up among the cushions, and not remarking how young their companion was. He spoke abruptly, but taking off his hat with an apologetic grace, which Geoff thought "foreign," as we are all so apt to suppose unusual courtesy to be. A sudden inspiration seized the young man. He did not know who this was, but somehow he never doubted who it was the stranger sought. "They are the little Musgraves of Penninghame," he said, simply, "whom I am taking home."

The tall stranger wavered for a moment, as though he might have fallen; then in a voice half-choked, he asked, "May I come beside you?" He sat down in the seat opposite to Geoff, after an anxious inspection of the two little faces, now settled into profound sleep. "Thank God!" he said. "They are all I have in the world."

Who could it be? Geoff's ears seemed to tingle with the words—"All I have in the world." He sat in his dark corner

and gazed at this strange new-comer, who was more in the light. And the new-comer gazed at him, seeing, after a while, the child's hand clasped in his—a mark of trust which, sweet as it was, kept young Geoff in a somewhat forced attitude, not comfortable for a long night journey. "I do not know you," he said, "but my little girl seems to put her whole trust in you, and that must make me your grateful servant too."

"Then you are John Musgrave?" cried the young man. "Oh, sir, I am glad!—most glad that you have come home! Yes, I think she likes me; and, child or woman," cried young Geoff, clasping the little hand close with a sudden *effusion*, "I shall never care for any one else."

Serious, careworn, in peril of his life, John Musgrave laughed softly in his beard. "This is my first welcome home," he said.

Geoff found a carriage waiting for him at Stanton, his first impulse having been to take the children to his mother. He gave them up now with a pang, having first witnessed the surprise of incredulous delight with which Lilius flung herself at her waking upon her father. The cry with which she hailed him, the illumination of her face, and, Geoff felt, utter forgetfulness of his own claims, half-vexed the young man after his uncomfortable night; and it was with a certain pang that he gave the children up to their natural guardian. "Papa, this is Mr. Geoff," Lilius said; "no one has ever been so kind; and he knows about you something that nobody else knows."

John Musgrave looked up with a gleam of surprise and a faint suffusion of color on his serious face. "Every one here knows about *me*," he said, with a sigh; and then he turned to the young guardian of his children. "Lily's introduction is of the slightest," he said. "I don't know you, nor how you have been made to take so much interest in them—how you knew even that they wanted help; but I am grateful to you with all my heart, all the same."

"I am Geoffrey Stanton," said the young man. He did not know how to make the announcement, but colored high with consciousness of the pain that must be associated with his name. But it was best, he felt, to make the revelation at once. "The brother of Walter Stanton,

whom——. As Lilius says, sir, I know more about you than others know. I have heard everything."

John Musgrave shook his head. "Everything! till death steps in to one or another of the people concerned, that is what no one will ever know; but so long as you do not shrink from me, Lord Stanton——You are Lord Stanton, is it not so?"

"I am not making any idle brag," said Geoff. "I know *everything*. It was Bampfylde himself—Dick Bampfylde—who sent me after the children. I know the truth of it all, and I am ready to stand by you, sir, whenever and howsoever you want me——"

Geoff bent forward eagerly, holding out his hand, with a flush of earnestness and enthusiasm on his young face. Musgrave looked at him with great and serious surprise. His face darkened and lighted up, and he started slightly at the name of Bampfylde. At last, with a moment's hesitation, he took Geoff's outstretched hand, and pressed it warmly. "I dare not ask what it is you do know," he said, "but there is nothing on my hand to keep me from taking yours; and thank you a thousand times—thank you for *them*. About everything else we can talk hereafter."

In ten minutes after Geoff was whirling along the quiet country road on his way home. It was like a dream to him that all this should have happened since he last drove between these hedgerows, and he had the half-disappointed, half-injured feeling of one who has not carried out an adventure to its final end. He was worn out too, and excited, and he did not like giving up Lily into the hands of her father. Had it been Miss Musgrave he would have felt no difficulty. It was chilly in the early morning, and he buttoned up his coat to his chin, and put his hands in his pockets, and let his groom drive, who had evidently something to say to him which could scarcely be kept in till they got clear of the station. Geoff had seen it so distinctly in the man's face, that he had asked at once, "Is all right at home?" But he was too tired to pay much attention to anything beyond that. When they had gone on for about a quarter of an hour, however, the groom himself broke the silence. "I beg your pardon, my lord——"

"What is it?" Geoff, retired into the

recesses of his big coat, had been half asleep.

Then the man began an excited story. He had heard a scuffle and struggle at a point of the road which they were about approaching, when on his way to meet his master. Wild cries, "not like a human being," he said, and the sound of a violent encounter. "I thought of the madman I was telling your lordship of yesterday."

"And what was it?" cried Geoff, rousing up to instant interest; upon which the groom became apologetic.

"How could I leave my horse, my lord?—a young beast, very fresh, as your lordship knows. He'd have bolted if I'd left him for a moment. It was all I could do, as it was, to hold him in with such cries in his ears. I sent on the first man I met. A man does not grapple with a madman unless he is obliged to—"

"But you sent the other man to do it," said Geoff, half-amused, half-angry. He sprang from the phaeton as they came to the spot which the groom pointed out. It was a little dell, the course of a streamlet widening as it ascended, and clothed with trees. Geoff knew the spot well. About half a mile further up, on a little green plateau in the midst of the line of sheltering wood which covered these slopes, his brother's body had been found. He had been taken to see the spot with shuddering interest when he was a child, and had never forgotten the fatal place. The wood was very thick, with rank, dark, water-loving trees; and whether it was fancy or reality, had always seemed to Geoff the most dismal spot in the country. All was quiet now, or so he thought at first. But there was no mistaking the evidence of wet, broken, and trampled grass, which showed where some deadly struggle had been. The spot was not far from the road—about five minutes of ascent, no more—and the young man pressed on, guided by signs of the fray, and in increasing anxiety; for almost at the first step he saw an old game-pouch thrown on the ground, which he recognised as having been worn by Bampfylde. Presently he heard, a little in advance of him, a low groan, and the sound of a sympathetic voice. "Could you walk, with my arm to steady you? Will you try to walk, my man?" Another low moaning cry followed. "My walking's done in this world," said a feeble voice. Geoff hurried

forward, stifling a cry of grief and pain. He had known it since he first set foot on that fatal slope. It was Bampfylde's voice; and presently he came in sight of the group. The sympathiser was the same laboring man, no doubt, whom his groom had sent to the rescue. Wild Bampfylde lay propped upon the mossy bank, his head supported upon a bush of heather. The stranger who stood by him had evidently washed the blood from his face and unbuttoned his shirt, which was open. There was a wound on his forehead, however, from which blood was slowly oozing, and his face was pallid as death. "Let me be—let me be," he said with a groan, as his kind helper tried to raise him. Then a faint glimmer of pleasure came over his ghastly face. "Ah, my young lord!" he said.

"What is it, Bampfylde? What has happened? Is he much hurt?" cried Geoff, kneeling down by his side. The man did not say anything, but shook his head. The vagrant himself smiled, with a kind of faint amusement in the mournful glimmer of his eyes.

"Not hurt, my young gentleman; just killed," he said; "but you're back—and they're safe?"

"Safe, Bampfylde; and listen!—with their father. He has come to take care of his own."

A warmer gleam lighted up the vagrant's face. "John Musgrave here! Ah, but it's well timed," he cried feebly. "My young lord, I'm grieved but for one thing, the old woman. Who will take care of old 'Lizabeth? And she's been a good woman—if it had not been her son that went between her and her wits. I'm sorry for her, poor old body; very, very sorry for her, poor 'Lizabeth. He'll never be taken now, my young lord. Now he's killed me, there's none will ever take him. And so we'll all be ended, and the old woman left to die, without one—without one—!"

"My cart is at the foot of the hill," said Geoff, quickly, addressing the laborer, who stood by with tears in his eyes; "take it, and bid the groom drive as fast as the horse will go—and he's fresh—for the first doctor you can find; and bid them send an easy carriage from Stanton—quick! For every moment you save I'll give you —"

"I want no giving. What a man can

do for poor Dick Bampfylde, I will," cried the other as he rushed down the slope. The vagrant smiled feebly again.

"They're all good-hearted," he said. "Not one of them but would do poor Dick Bampfylde a good turn; that's a pleasure, my young lord. And you—you're the best of all. Ay, let him go, it'll please you; but me, my hour's come."

"Bampfylde, does it hurt you to speak? Can you tell me how it was?"

The poor fellow's eyes were glazing over. He made an effort when Geoff's voice caught him as it were, and arrested the stupor. "Eh, my young lord? What need to tell? Poor creature, he did not know me for a friend, far less a brother. And madness is strong—it's strong. Tell the old woman that—it was not *me* he killed—but one that tried to take him. Ay—we were all playing about the beck, and her calling us to come in—all the family; him and—Lily—and me. I was always the least account—but it was me that would aye be first to answer;—and now we are all coming home—Poor old 'Lizabeth—Eh! what were you saying, my young lord?"

"Bampfylde! has he got clear off again, after this? Where is he? Can you tell me—for the sake of others if not for your own."

"For mine!—Would it mend me to tell upon him?—Nay, nay, you'll never take him—never now; but he'll die—like the rest of us—that is what puts things square, my young lord—death!—it settles all; you'll find him some place on the green turf—we were aye a family that liked the green grass underneath us—you'll find him—as peaceable as me."

"Oh, Bampfylde," cried Geoff, "keep up your courage a little! the men will come directly and carry you to Stanton."

"To carry me—to the kirkyard—that's my place; and put green turf over me—nothing but green turf. So long as you will be kind to old 'Lizabeth; she'll live—she's not the kind that dies—and not one of us to the fore! What did we do—we or our fathers?" said the vagrant solemnly. "But, oh, that's true, true—that's God's word: Neither he did it nor his fathers—but that the works of God might be manifest. Eh, but I cannot see—I cannot see how the work of God is in it. My eyes—there's not much good in my eyes now."

Geoff kneeled beside the dying man, not knowing what to do or say. Should he speak to him of religion? Should he question him about his own hard fate, that they might bring it home to the culprit? But Bampfylde was not able for either of these subjects. He was wading in the vague and misty country which is between life and death. He threw out his arms in the languor and restlessness of dying, and one of them dropped so that the fingers dipped in the little brook. This brought another gleam of faint pleasure to his pallid face.

"Water—give me some—to drink," he murmured, moving his lips. And then, as Geoff brought it to him in the hollow of a leaf, the only thing he could think of, and moistened his lips and bathed his forehead—"Thank you, Lily," he said. "That's pleasant, oh, that's pleasant. And what was it brought you here—you here?—they're all safe, the young ones—thanks to—. Eh! it's not Lily—but I thought I saw Lily; it's you, my young lord?"

"Yes, I am here—lean on me, Bampfylde. What can I do for you? what can I do?" Geoff had never seen death, and he trembled with awe and solemn reverence, far more deeply moved than the dying vagrant who was floating away on gentle waves of unconsciousness.

"Ay, Lily—d'ye hear her calling?—the house is dark, and the night's fine. But let's go to her—let's go; he was aye the last, though she likes him best." Bampfylde raised himself suddenly with a half-convulsive movement. "Poor 'Lizabeth—poor old 'Lizabeth!—all gone—all gone!" he said.

And what an hour Geoff spent supporting the poor head, and moistening the dry lips of the man who was dead, yet could not die! He did not know there had been such struggles in the world.

CHAPTER XXXVII.

A TRAITOR.

MR. PENNITHORNE was at the Castle almost all the day during which so many things occurred. While the children wandered in the wood and young Lord Stanton went in search of them, the vicar could not leave the centre of anxiety. There was no possibility of going upon that quest till the evening, and good Mr.

Pen thought it his bounden duty to stay with John, to "take off his attention," to distract his mind if possible from the object of his anxieties. It was all John Musgrave could do, by way of consideration for an old friend, to put up with these attentions, but he managed to do so without betraying his impatience, and Mr. Pen thought he had performed the first duty of friendship. He suggested everything he could think of that might have happened; most of his suggestions going to prove that Lilius was in very great peril indeed, though she might be saved in various ingenious ways. And he took Mary aside and shook his head, and said he was afraid it was a very bad business. He believed, good man, that he was of the greatest use to them both, and congratulated himself on having stayed to discharge this Christian duty. But Mrs. Pen at the vicarage got cross and nervous, and did not think her husband was doing his duty to his home. When a telegram came in the afternoon, she was not only curious but frightened—for telegrams she thought were always messages of evil. What could it tell but harm? Perhaps that her father had been taken ill (Mr. Pen himself had no family nor anybody to speak of belonging to him); perhaps that the investment had gone wrong in which all their little money was. She tore it open in great agitation, and read as follows:—

"John Musgrave is in the country and near you. Do you remember what is your duty as a magistrate, and what is the penalty of not performing it?"

Mrs. Pen read the alarming missive two or three times over before she could understand what it meant. John Musgrave! by degrees it became clear to her. This was why her husband deserted her, and spent his whole day at the Castle. He a magistrate whose first duty it was to send John Musgrave to prison. The penalty—what was the penalty? The poor woman was in such a frenzy of agitation and terror that she did not know what to believe. What could they do to him if it was found out? She went to the window and looked for him. She went out and walked to the garden gate. She was not able to keep still. The penalty—what was it? Could they put him in prison instead of the criminal he allowed to go free? That seemed the

most natural thing, and imagination conjured up before her the dreadful scene of Mr. Pen's arrest, perhaps when he was going to church, perhaps when the house was full of people—everybody seeing—everybody knowing it. Mrs. Pen saw her husband dragged along the road in handcuffs before she came to an end of her imaginations. Was there nothing she could do to save him? She was ready to put herself in the breach, to say like a heroine, "Take me, and let him go free!" but it did not appear to her likely that the myrmidons of the law would pay any attention to such a touching interposition. Then it occurred to her to look who it was, a thing she had not noticed at first, who had sent this kind warning. But this alarmed her more and more. It was some one who called himself "Friend," who had taken the trouble, from a distant place in the midland counties, to telegraph thus to Mr. Pennithorne. A friend—it was then an anonymous warning—a very alarming thing indeed to the vulgar mind. Mrs. Pen worked herself up into a state of intense nervous agitation. She sent for the gardener that she might send him at once to the Castle for her husband. But before he came another train of reflections came across her mind. John Musgrave was her William's friend. He was devoted to the family generally and to this member of it in particular. Was he not capable of going to prison—of letting himself be handcuffed and dragged along the public road, and cast into a dungeon rather than give up his friend to justice? Oh, what could the poor woman do? If she could but take some step—do something to save him before he knew.

All at once there occurred to Mrs. Pen a plan of action which would put everything right—save William in spite of himself, and without his knowledge, and put John Musgrave in the hands of justice without any action of his which could be supposed unfriendly. She herself, Mrs. Pen, did not even know John, so that if she betrayed him it would be nothing unkind, nobody could blame her, not Mary Musgrave herself. When the gardener came, instead of sending him to the Castle for her husband, she sent him to the village to order the fly in which she occasionally paid visits. And she put on her best clothes with a quiver of anxiety and terror in her heart. She put the telegram

in her pocket, and drove away—with a half satisfaction in her own appearance, and half pride in bidding the man drive to Elfdale, to Sir Henry Stanton's, mingling with the real anxiety in her heart. She was frightened too at what she was about to do—but nobody could expect from her any consideration for John Musgrave, whom she had never seen; whereas to save her husband from the consequences of his foolish faithfulness, was not that the evident and first duty of a wife? It was a long drive, and she had many misgivings as she drove along, with plenty of time to consider and reconsider all the arguments she had already gone over; but yet when she got to Elfdale she did not seem to have had any time to think at all. She was hurried in, before she knew, to Sir Henry Stanton's presence. He was the nearest magistrate of any importance, and Mrs. Pen had a slight visiting acquaintance of which she was very proud, with Lady Stanton. Had she repented at the last of her mission, she could always make out to herself that it was Lady Stanton she had come to visit. But it was Sir Henry whom she asked for, alarm for her husband at the last moment getting the better of her fears.

Sir Henry received her with a great deal of surprise. What could the little country clergyman's wife want with him? But he was still more surprised when he heard her errand. John Musgrave at home—within reach—daring justice—defying the law! His wife had told him of some supposed discovery which she at least imagined likely to clear Musgrave, by bringing in another possible criminal, but that must be some merely nonsensical theory he had no doubt, such as women and boys are apt to indulge—for if anything could be worse than women, Sir Henry felt it was boys inspired by women, and carrying out their fancies. Therefore he had paid very little regard to what his wife said. Mrs. Pennithorne had the advantage of rousing him into excitement. What! come back!—daring justice to touch him—insulting the family of the man he had killed, and the laws of the country! Sir Henry fumed at the audacity, the evident absence of all remorse or compunction. "He must be a shameless, heartless ruffian," he said, and then he looked at the harmless little woman

who had brought him this news. "It is very public-spirited to bestir yourself in the matter," he said. "Have you seen the man, Mrs. Pennithorne, or how have you come to know?"

"I have not seen him, Sir Henry. I don't know anything about him, therefore nobody could say that it was unkind in me. How can you have any feeling for a person you never saw? I got—the news to-day when my husband was at the Castle—he did not tell me—he has nothing to do with it. He is a great friend of the Musgraves, Sir Henry. And I was told if he knew and did not tell it would bring him into trouble—so I came to you. I thought it was a wife's duty. I did not wait till he came in to show him the telegram, but I came straight on to you."

"Then you got a telegram?"

"Did I say telegram?" she said, frightened. "Oh—I did not think what I was saying. But why should I conceal it? Yes, indeed, Sir Henry, this afternoon there came a telegram. I have never had a moment's peace since then. I thought at first I would send for him and see what he would do, but then I thought—he thinks so much of the Musgraves. No doubt it would be a trouble to him to go against them; and so I thought before he came in I would come to you. I would not do anything without consulting my husband in any ordinary way, indeed, I assure you, Sir Henry. I am not a woman of that kind; but in a thing that might have brought him into such trouble—"

"And is this telegram all you know, Mrs. Pennithorne?"

A horrible dread that he was going to disapprove of her, instead of commending her, ran through her mind.

"It is all," she said, faltering; "I have it in my pocket."

To show the telegram was the last thing in her mind, yet she produced it now in impetuous self-defence. Having made such a sacrifice as she had done, acted on her own authority, incurred the expense of the fly, absented herself from home without anybody's knowledge (though William was far too much wrapped up in the Musgraves to be aware of that), it was more than Mrs. Pennithorne could bear to have her motives thus unappreciated. She held out the telegram without pausing to think. He took it and read it with a curious look

on his face. Sir Henry took a low view of wives and women in general. If she belonged to him how he would put her down, this meddling woman! but he was glad to learn what she had to tell, and to be able to act upon it. To approve of your informant and to use the information obtained are two very different things.

"This is a threat," he said; "this is a very curious communication, Mrs. Pennithorne. Do you know who sent it? Friend! Is it a friend in the abstract, or does your husband know any one of the name?"

"I don't know who it is. Oh no, Sir Henry. William knows no one—no one whom I don't know! His friends are my friends. My husband is the best of men. He has not a secret from me. If I may seem to be acting behind his back it is only to save him, Sir Henry; only for his good."

"You are acting in the most public-spirited way, Mrs. Pennithorne; but it is very strange, and I wonder who could have sent it. Do you know any one at this place?"

"Nobody," she said, composing herself, yet not quite satisfied either, for public-spirited was but a poor sort of praise. She was conscious that she was betraying her husband as well as John Musgrave, and nothing but distinct applause and assurance that she had saved her William could have put her conscience quite at ease.

"It is very odd—very odd," he said; "but I am very much obliged to you for bringing this information to me, and I shall lose no time in acting upon it. For a long time—a very long time, this man has evaded the law; but it will not do to defy it—it never does to defy it. He shall find that it is more watchful than he thought."

"And, Sir Henry, of course it is of my husband I must first think. You will not say he knew? You will not let him get into trouble about it? A clergyman, a man whom every one looks up to! You will save him from the penalty, Sir Henry? Indeed I have no reason to believe he knew at all; he has never seen this thing. I don't suppose he knows at all. But he might be so easily got into trouble! Oh, Sir Henry! you will not let them bring in William's name?"

"I shall take care that Mr. Pennithorne

is not mentioned at all," he said, with a polite bow; but he did not add, "You are a heroic woman and you have saved your husband," which was the thing poor Mrs. Pen wanted to support her. She put back her telegram in her pocket very humbly and rose up, feeling herself more a culprit than a heroine, to go away. At this moment Lady Stanton herself came in hurriedly.

"I heard Mrs. Pennithorne was here," she said, with a half apology to her husband, "and I thought I might come and ask what was the last news from Penninghame—if there was any change. I am not interrupting business?"

"No; you will be interested in the news Mrs. Pennithorne brings me," said Sir Henry with a certain satisfaction. "Mr. Musgrave's son John, in whom you have always shown so much interest, Walter Stanton's murderer——"

"No, no," she said, with a shudder, folding her hands instinctively; "no, no!" The color went out of her very lips. She was about to hear that he had died. He must have died on the very day she saw him. She listened, looking at her husband all pale and awe-stricken, with a gasp in her throat.

"Is here," said Sir Henry, deliberately. "Here, where it was done, defying the law."

Mary uttered a great cry of mingled relief and despair.

"Then it was he—it was he—and no ghost!" she cried.

"What! you knew and never told me? I am not so happy in my wife," said Sir Henry, with a threatening smile, "as Mr. Pennithorne."

"Oh, was it he—was it he? no spirit but himself? God help him," cried Lady Stanton, with sudden tears. "No, I could not have told you, for I thought it was an apparition. And I would not, Henry," she added, with a kind of generous passion. "I would not if I could. How could I betray an innocent man?"

"Happily Mrs. Pennithorne has saved you the trouble," he said, getting up impatiently from his seat. He resented his wife's silence, but he scorned the other woman who had brought him the news. "Do not let me disturb you, ladies, but this is too important for delay. The warrant must be out to-night. I trust to your honor or I might arrest you both," he

said with a sneer; "two fair prisoners—lest you should warn the man and defeat justice again."

"Henry, you are not going to arrest him—to *arrest* him—after what I told you? I told you that Geoff——"

"Geoff! send Geoff to your nursery to play with your children, Lady Stanton," he cried in rising wrath, "rather than make a puppet of him to carry out your own ideas. I have had enough of boys' nonsense and women's. Go to your tea-table, my lady, and leave me to manage my own concerns."

Then Lady Stanton—was it not natural?—with a white, self-contained passion, turned upon the other commonplace woman by her side, who stood trembling before the angry man, yet siding with him in her heart as such women do.

"And is it you that have betrayed him?" she cried; "do you know that your husband owes everything to him—everything? Oh, it cannot be Mr. Pen's doing—he loved them all too well. If it is you, how will you bear to have his blood on your head? God knows what they may prove against him or what they may do to him; but whatever it is, it will be a lie, and his blood will be on your head. Oh, how could you, a woman, betray an innocent man?"

Lady Stanton's passion, Sir Henry's lowering countenance, the sudden atmosphere of tragedy in which she found herself, were too much for poor Mrs. Pen. She burst into hysterical crying, and dropped down upon the floor between these two excited people. Perhaps it was as good a way as another of extricating herself out of the most difficult position in which a poor little, well-intentioned clergywoman had ever been.

CHAPTER XXXVIII.

THE MOTHER.

THE afternoon of the day on which poor Bampfylde died was bright and fine, one of those beautiful October days which are more lovely in their wistful brightness, more touching, than any other period of the year. Summer still lingering, the smile on her lip and the tear in her eye, dressed out in borrowed splendor, her own fair garniture of flowers and greenery worn out, but wearing her Indian mantle with a tender

grace, subdued and sweet. The late mignonette overblown, yet fragrant, was sweet in the little village gardens, underneath the pale china roses that still kept up a little glow of blossom. Something had excited the village; the people were at their doors, and gathered in groups about. Miss Price, the dressmaker, held a little court. There was evidently something to tell, something to talk over more than was usual. The few passengers who were about, stayed to hear, and each little knot of people, which had managed to secure a new listener, was happy. They were all in full tide of talk, commenting upon and discussing some occurrence with a certain hush, at the same time, of awe about them, which showed that the news was not of a joyful character—when some one came down through the village, whose appearance raised the excitement to fever-point. It was the well-known figure of the old woman in her grey cloak—so well known up the water and down the water—which thus suddenly appeared among them—Old 'Lizabeth Bampfylde! The gossips shrank closer together, and gazed at her, with eager curiosity all, with sympathy some. They drew away from her path with a feeling which was half reverence and half fear. "Does she know—do you think she knows?" some of them asked; and exclamations of "Poor old body—poor woman," were rife among the kind-hearted; but all under their breath. 'Lizabeth took no notice of the people in her path; perhaps she did not even see them. She was warm with her long walk from the fells, and had thrown off her hood, and knotted her red handkerchief over her cap. She went along thus with the long swing of her still vigorous limbs, stately and self-absorbed. Whatever she knew her mind was too much occupied to take any notice of the people in her way. She had walked far, and she had far to walk still. She went on steadily through the midst of them without a pause, looking neither to the right nor the left. There was a tragic directness in the very way she moved, going straight as a bird flies, at least as straight as the houses permitted, minding no windings of the road. The people in front of her stood back and whispered; the people behind closed upon her path. Did she know? would she have had the fortitude to come walking down here all

this long way had she known? was she going to Stanton where *they* were? Last of all, timidly, the people said among themselves, "Should not some one tell her? some one should speak to her;" but by this time she had passed through the village, and they all felt with a sensation of relief that it was too late.

Lizabeth walked on steadily along the waterside. It was a long way that she had still before her. She was going all the way down the water to Sir Henry Stanton's, as Mrs. Pennithorne had gone the day before. The walk was nothing to her, and the long silence of it was grateful to her mind. She knew nothing of what had happened on the other side of the lake. Up in her little house among the hills, all alone in the strange cessation of work, the dead leisure which seemed to have fallen upon her, she had thought of everything till her head and her heart ached alike. Everything now seemed to have gone wrong. Her daughter dead in exile, and her daughter's husband still a banished man, all for the sake of him who was roaming over the country a fugitive escaped from her care. The life of her son Dick had been ruined by the same means. And now the cycle of misfortune was enlarging. The little boy, who was the heir of the Musgraves, was lost too because he had no one to protect him—Lily's child; and the other Lily, the little lady whom she felt to be her own representative, as well as Lily's, who could tell what would become of her? It seemed to Lizabeth that this child was the most precious of all. All the rest had suffered for the sake of her madman; but the second Lily, the little princess, who had sprung from her common stock, nothing must touch. Yet it cannot be said that it was for Lily's sake that she made up her mind at last; it was nothing so simple, it was a combination and complication of many motives. He was gone out of her hands who had been for years the absorbing occupation of her life. Dick was after him, it was true; but if Dick failed, how was he to be got without public help? and that help could not be given until the whole story was told. Then her own loneliness wrought upon her, and all the whispers and echoes that circled about the cottage, when he was not there. Her son, ill-fated companion, the ruin of all who had any connection with him, ab-

sorbed her so much in general, that she had no time to survey the surroundings, and think of all that was, and had been, and might be. Was it he after all that was the cause of all the suffering? What did he know of it? The story of Lily and of John Musgrave was a blank to him. He knew nothing of what they had suffered, was innocent of it in reality. Had he known, would he not have given himself up a hundred times rather than the innocent should suffer for him? Was it he, then, or his mother who was the cause of all? Several times, during their long agony, such thoughts had overwhelmed Lizabeth's mind. They had come over her in full force when the children came to the Castle, and then it was that she had been brought to the length of revealing her secret to young Lord Stanton. Now everything was desperate about her; the little boy lost, the madman himself lost; no telling at any moment what misery and horror might come next. She thought this over day after day as the time passed, and no news came; waiting in the great loneliness, with her doors all open, that he might come in if some new impulse, or some touch of use and wont, should lead him back, her ears intent to hear every sound; her mind prepared (she thought) for anything; fresh violence, perhaps; violence to himself; miserable death, terrible discovery. She thought she heard his wild whoops and cries every time the wind raved among the hills; if a mountain stream rushed down a little quicker than usual, swollen by the rain, over its pebbles, she thought it was his hurrying steps. It was always of him that her thoughts were, not of her other son who was pursuing the madman all about, subject to the same accidents, and who might perhaps be his victim instead of his captor. She never thought of that. But she was driven at last to a supreme resolution. Nobody could doubt his madness, could think it was a feint put on to escape punishment now. And God, who was angry, might be propitiated if at last she made Him, though unwillingly, this sacrifice, this homage to justice and truth. This was the idea which finally prevailed in her mind. She would go and tell her story, and perhaps an angry God would accept, and restore the wanderer to her. If he were safe, safe even in prison, in some asylum, it would be better at least

than his wild career of madness, among all the dangers of the hills. She had risen in the morning from her uneasy bed, where she lay half-dressed, always watching, listening to every sound, with this determination upon her. She would propitiate God. She would do this thing she ought to have done so long ago. She did not deny that she ought to have done it, and now certainly she would do it, and God would be satisfied, and the tide of fate would turn.

All this struggle had not been without leaving traces upon her. Her ruddy color, the color of exposure as well as of health and vigor, was not altogether gone, but she was more brown than ruddy, and this partial paleness and the extreme gravity of her countenance added to the stately aspect she bore. She might have been a peasant-queen, as she moved along with her steady, long, swinging footstep, able for any exertion, above fatigue or common weakness. A mile or two more or less, what did that matter? It did not occur to her to go to Mr. Pennithorne, though he was nearer, with her story. She went straight to Sir Henry Stanton. He had a family right to be the avenger of blood. It would be all the compensation that could be made to the Stantons, as well as a sacrifice propitiating God. And now that she had made up her mind there was no detail from which she shrank. 'Lizabeth never remarked the pitying and wondering looks which were cast upon her. She went on straight to her end with a sense of the solemnity and importance of her mission which perhaps gave her a certain support. It was no light thing that she was about to do. That there was a certain commotion and agitation about Elfdale did not strike her in the excited state of her mind. It was natural that agitation should accompany her wherever she went. It harmonized with her mood, and seemed to her (unconsciously) a homage and respectful adhesion of nature to what she was about to do.

The great door was open, the hall empty, the way all clear to the room in which Sir Henry held his little court of justice. 'Lizabeth had come by instinct to the great hall-door—a woman with such a tragical object does not steal in behind backs or enter like one of the

unconsidered poor. She went in unchallenged, seeing nobody except one of the girls, who peeped out from a door, and retreated again at sight of her. 'Lizabeth saw nothing strange in all this. She went in, more majestically, more slowly than ever, like a woman in a procession, a woman marching to the stake. What stake, what burning could be so terrible? Two of the country police were at the open door; they looked at her with wondering awe, and let her pass. What could any one say to her? An army would have let her pass—the mother!—for they knew, though she did not know. 'Lizabeth saw but vaguely a number of people in the room—so much the better; let all hear who would hear. It would be so much the greater propitiation to an outraged Heaven. She came in with a kind of dumb state about her, everybody giving way before her. The mother! they all said to each other with dismay, yet excitement. Some one brought her a chair with anxious and pitying looks. She put it away with a wave of her hand, yet made a little curtsy of acknowledgment in old-fashioned politeness. It never occurred to her mind to inquire why she was received with such obsequious attention. She advanced to the table at which Sir Henry sat. He too looked pityingly, kindly at her, not like his usual severity. God had prepared everything for her atonement—was it not an earnest of its acceptance that He should thus have put every obstacle out of her way?

"Sir Henry Stanton," she said, "I've come to make you acquainted with a story that all the country should have heard long ago. I've not had the courage to tell it till this moment, when the Lord has given me strength. Bid them take pen and paper and put it all down in hand of write, and I'll set my name to it. It's to clear them that are innocent that I've come to speak, and to let it be known who was guilty; but it wasna him that was guilty—it wasna him—but the madness in him," she said, her voice breaking for a moment. "My poor, distracted lad!"

"Give her a seat," said Sir Henry. "My poor woman, if you have any information to give about this terrible event—"

"Ay, I have information—plenty in-

formation. Nay, I want no seat. I'm standing as if I was at the judgment-seat of God; there's where I've stood this many a year, and been judged, but aye held fast. What is man, a worm, to strive with his Maker? but me, I've done that, that am but a woman. I humbly crave the Almighty's pardon, and I've made up my mind to do justice now—at the last."

The people about looked at each other, questioning one another what it was, all but two, who knew what she meant. Young Lord Stanton, who was close to the table, looked across at a tall stranger behind, by whom the village constable was standing, and who replied to Geoff's look by a melancholy half smile. The others looked at each other, and 'Lizabeth, though she saw no one, saw this wave of meaning, and felt it natural too.

"Ay," she said, "you may wonder; and you'll wonder more before all's done. I am a woman that was the mother of three; bonny bairns—though I say it that ought not; ye might have ranged the country from Carlisle to London town, and not found their like. My Lily was the beauty of the whole water; up or down, there was not one that you would look at when my lass was by. What need I speak? You all know that as well as me."

The swell of pride in her as she spoke filled the whole company with a thrill of admiration and wonder, like some great actress disclosing the greatness of impassioned nature in the simplest words. She was old, but she was beautiful too. She looked round upon them with the air of a dethroned empress, from whom the recollection of her imperial state could never depart. Rachel could not have done it, nor perhaps any other of her profession. There was the sweetness of remembered triumph in the midst of the most tragic depths; a gleam of pride and pleasure out of the background of shame and pain.

"Ah! that's all gone and past," she went on with a sigh. "My eldest lad was more than handsome, he was a genius as well. He was taken away from me when he was but a little lad—and never came home again till—till the devil got hold of him, and made him think shame of his poor mother, and the

poor place he was born in. I would never have blamed him. I would have had him hold his head with the highest, as he had a right—for had he not gotten that place for himself?—but when he came back to the waterside a great gentleman and scholar, and would never have let on where he belonged to, one that is not here to bear the blame," said 'Lizabeth, setting her teeth—"one that is gone to his account—and well I wot the Almighty has punished him for his ill deeds—betrayed my lad. Some of the gentry were good to him—as good as the angels in heaven—but some were as devils, that being their nature. And this is what I've got to say:" Here she made a pause, raised herself to her full height, and threw off the red kerchief from her head in her agitation. "I've come here to accuse before God and you, Sir Henry, my son, Abel Bampfylde, him I was most proud of and loved best, of the murder of young Lord Stanton, which took place on the morning of the second of August, eighteen hundred and forty-five—fifteen years ago and more."

The sensation that followed is indescribable. Sir Henry Stanton himself rose from his seat, excited by wonder, horror, and pity, beyond all ordinary rule. The bystanders had but a vague sense of the extraordinary revelation she made, so much were they moved by the more extraordinary passion in her, and the position in which she stood. "My good woman, my poor woman!" he cried, "this last dreadful tragedy has gone to your brain—and no wonder. You don't know what you say."

She smiled—mournfully enough, but still it was a smile—and shook her head. "If you had said it as often to yourself as I have done—night and day—night and day; open me when I'm dead, and you'll find it, here," she cried—all unaware that this same language of passion had been used before—and pressing her hand upon her breast. "The second of August, eighteen hundred and forty-five—if you had said it over as often as me!"

There was a whisper all about, and the lawyer of the district, who acted as Sir Henry's clerk on important occasions, stooped towards him and said something. "The date is right. Yes, yes, I know the date is right," Sir Henry

said, half-angrily. Then added, "There must be insanity in the family. What more like the effort of a diseased imagination than to link the old crime of fifteen years ago with what has happened to-day?"

"Is it me that you call insane?" said 'Lizabeth. "Eh, if it was but me! But well I know what I'm saying." Then the wild looks of all around her suddenly impressed the old woman, too much occupied hitherto to think what their looks meant. She turned round upon them with slowly-awakening anxiety. "You're looking strange at me," she cried, "you're all looking strange at me. What is this you're saying that has happened to-day? Oh, my lad is mad!—he's roaming the hills, and Dick after him; he doesn't know what he's doing; he's out of his senses; it's no ill-meaning. Lads, some of you tell me; I'm going distracted. What has happened to-day?"

The change in her appearance was wonderful; her solemn stateliness and abstraction were gone. Here was something she did not know. The flush of anxiety came to her cheeks, her eyes contracted, her lips fell apart. "Tell me," she said, "for the love of God!"

No one moved. They looked at each other with pale, alarmed faces. How could they tell her? Geoff stepped forward and took her by the arm very gently. "Will you come with me?" he said. "Something has happened; something that will grieve you deeply. I—I promised Dick to tell you, but not here. Won't you come with me?"

She drew herself out of his grasp with some impatience. "There's been some new trouble," she said to herself—"some new trouble! No doubt more violence. Oh, God, forgive him! but he does not know what he's doing. It's you, my young lord? You know it's true what I've been saying. But this new trouble, what is it?—more blood? Oh, tell me the worst; I can bear it all, say, even if he was dead."

"'Lizabeth," said Geoff, with tears in his voice—and again everybody looked on as at a tragedy—"you are a brave woman; you have borne a great deal in your life. He is dead; but that is not all."

She did not note or perhaps hear the

last words. How should she? The first was enough. She stood still in the midst of them, all gazing at her, with her hands clasped before her. For a moment she said nothing. The last drop of blood seemed to ebb from her brown cheeks. Then she raised her face upward, with a smile upon it. "The Lord God be praised," she said. "He's taken my lad before me."

And when they brought to her the seat she had rejected, 'Lizabeth allowed herself to be placed upon it. The extreme tension of both body and mind seemed to have relaxed. The look of tragic endurance left her face. A softened aspect of suffering, a kind of faint smile, like a wan sunbeam, stole over it. The moisture came to her strained eyes. "Gone? Is he gone at last? On the hillside was it?—in some wild corner, where none but God could be near, no his mother? And me that was dreading and dreading I would be taken first; for who would have patience like his mother? But after all, you know, neighbors, the father comes foremost; and God had more to do with him—more to do with him—than even me."

"Take her away, Geoff," said Sir Henry. The men were all overcome with this scene, and with the knowledge of what remained to be told. Sir Henry was not easily moved, but there was something even in his throat which choked him. He could not bear it though it was nothing to him. "Geoff, this is not a place to tell her all you have got to tell. Take her away—take her—to Lady Stanton."

"Nay, nay," she said; "it's my death-doom, but it's not like other sorrow. I know well what grief is. When I heard for certain my Lily was dead and gone, and me never to see her more! But this is not the same: it's my death, but I canna call it sorrow; not like the loss of a son. I'm glad too, if you understand that. Poor lad!—my Abel! Ay, ay; you'll not tell me but what God understands, and is more pitiful of His handiwork, say than the like of you or me."

"Come with me," said Geoff, taking her by the arm. "Come, and I will tell you everything, my poor 'Lizabeth. You know you have a friend in me."

"Ay, my young lord; but first let

them write down what I've said, and let me put my name to it. All the more because he's dead and gone this day."

"Everything shall be done as you wish," said Geoff, anxiously; "but come with me—come with me—my poor woman; this is not a place for you."

"No," she said. She would not rise from her seat. She turned round to the table where Sir Henry sat and his clerk. "I must end my work now it's begun. I've another son, my kind gentlemen, and he will never forgive me if I do not end my work. Write it out and let me sign. I have but my Dick to think of now."

A thrill of horror ran through the little assembly: to tell her that he too was gone, who would dare to do it? John Musgrave, whom she had not seen, stood behind, and covered his face with his hands. Sir Henry, for all his steady nerves and unsympathetic mind, fell back in his chair with a low groan. Only young Geoff, his features all quivering, the tears in his eyes, stood by her side.

"Humor her," he said. "Let her have her way. None of us at this moment surely could refuse her her way."

The lawyer nodded. He had a heart of flesh, and not of stone; and 'Lizabith sat and waited, with her hands clasped together, her head a little raised, her countenance beyond the power of painting. Grief and joy mingled in it, and relief and anguish. Her eyes were dilated and wet, but she shed no tears; their very orbits seemed enlarged, and there was a quivering smile upon her mouth—a smile such as makes spectators weep. "Here I and sorrow sit." There was never a king worthy the name but would have felt his state as nothing in this presence. But there was no struggle in her now. She had yielded, and all was peace about her. She would have waited for days had it been necessary. That what she had begun should be ended was the one thing above all.

A man came hurriedly in as all the people present waited round, breathless and reverential for the completion of her testimony. Their business, whatever it was, was arrested by force of nature. The kind old Dogberry, from the village, who had been standing by John

Musgrave's side, by way of guarding him, put up his hand to his forehead and made a rustic bow to his supposed prisoner. "I always knewed that was how it would turn out," he said, as he hobbled off—to which John Musgrave replied only by a faint smile, but stood still, as motionless as a picture, though all semblance of restraint had melted away. But while all waited thus reverentially, a sudden messenger came rushing in, and, addressing Sir Henry in a loud voice, announced that the coroner had sent him to make preparations for the inquest. "And he wants to know what time it will be most convenient for the jury to inspect the two bodies; and if they are both in the same place; and if it's true."

There was a universal hush, at which the man stopped in amazement. Then his eye, guided by the looks of the others, fell upon the old woman in the chair. She had heard him, and she was roused. Her face turned towards him with a growing wonder. "She here! O Lord forgive me!" he cried, and fell back.

"Two bodies," she said. A shudder came over her. She got up slowly from her seat, and looked round upon them all. "Two—another, another! oh my unhappy lad!" She wrung her hands and looked round upon them. "Maybe another house made desolate; maybe another woman—Will you tell me who the other was?"

Here the laboring man, who had been with Wild Bampfylde on the hillside, and who was standing by, suddenly succumbed to the strange horror and anguish of the moment. He burst out loudly into tears, crying like a child. "Oh, poor 'Lizabith, poor 'Lizabith!" he cried; he could not bear any more.

'Lizabith looked at this man with the air of one awakening from a dream. Then she turned a look of inquiry upon those around her. No one would meet her eye. They shrank one behind another away from her, and more than one man burst forth into momentary weeping like the first, and some covered their faces in their hands. Even Geoff, sobbing like a child, turned away from her for a moment. She held out her hands to them with a pitiful cry, "Say it's not that, say it's not that!" she cried.

The shrill scream of anguish ran through the house. It brought Lady Stanton, and all the women, shuddering from every corner. They all knew what it was and how it was. The mother! What more needed to be said? They came in and surrounded her, the frivolous girls, and the rough women from the kitchen, altogether, while the men stood about looking on. Not even Sir Henry could resist the passion of horror and sorrow which had taken possession of the place. He cried with a voice all hoarse and trembling to take her away! take her away!

CHAPTER XXXIX.

THE TRAGEDY ENDS.

'LIZABETH BAMPFYLDE went on to Stanton that same afternoon, where the remains of her two sons were lying. But she would not go in Lady Stanton's carriage.

"Nay, nay — carriages were never made for me. I will walk, my lady. It's best for me, body and soul."

She had recovered herself after the anguish of that discovery. Before the sympathisers round her had ceased to sob, 'Lizabeth had raised herself up in the midst of them like an old tower. The storm had raged round her, but had not crushed her. Her face and even her lips had lost all trace of color, her eyes were hollow and widened out in their sockets, like caves to hold the slow welling out of salt tears. There was a convulsive trembling now in the pose of her fine head, and in her hands; but her strength was not touched.

"Oh, how can you walk?" Lady Stanton said. "You were not able for it."

"I am able for anything it's God's pleasure to send," she said; "though it's little even He can do to me now." The women stood round her with pitiful looks, some of them weeping unrestrainedly; but the tears that 'Lizabeth shed, came one by one, slow gathering, rarely falling. She put on her red handkerchief over her cap again, with hands that were steady enough till that twitch of nervous movement took them. "It should be black," she said, with a half-smile; "ay, I should be a' black from head to foot, from head and foot, if there was one left to mind." Then she turned

upon them with again her little stately curtsey. "I'm not a woman of many words, and ye may judge what heart I have to speak; but I thank ye all," and with once more a kind of smile, she set out upon her way.

John Musgrave had been standing by; he had spoken to no one, not even to Lady Stanton, who, trembling with a consciousness that he was there, had not been able, in the presence of this great anguish, to think of any other. He, and his story, and his return, altogether, had been thrown entirely into the background by these other events. He came forward now, and followed 'Lizabeth out of the gate. "I am going with you," he said. The name "mother" was on his lips, but he dared not say it. She gave a slight glance at him, and recognised him. But if one had descended from heaven to accompany her, what would that have been to 'Lizabeth? It was as if they had parted yesterday.

"Ay," she said, then, after a pause, "it's you that has the best right."

The tragedy had closed very shortly after that penultimate chapter which ended with the death of Wild Bampfylde. When the carriage and its attendants arrived to remove him to Stanton, he was lying on Geoff's shoulder, struggling for his last breath. It was too late then to disturb the agony. The men stood about reverentially till the last gasp was over, then carried the vagrant tenderly to the foot of the hill, with a respect which no one had ever shown him before. One of the party, a straggler, who had strayed further up the dell, in the interval of waiting, saw traces above among the broken bushes, which made him call some of his comrades as soon as their first duty was done. And there on the little plateau, where Walter Stanton's body had been found fifteen years before, lay that of his murderer, the madman who had wrought so much misery. He was found lying across the stream as if he had stooped to drink, and had not been able to raise himself. The running water had washed all traces of murder from him. When they lifted him with much precaution, not knowing whether his stillness might mean a temporary swoon, or a feint of madness to beguile them, his pale marble countenance seemed a reproach to the lookers-

on. Even with the aspect of his victim fresh in their eyes, the men could not believe that this had ever been a furious maniac or manslayer. One of them went to look for Geoff, and to arrest the progress of the other funeral procession. "There's another one, my lord," he said, "all torn and tattered in his clothes, but with the look of a king." And Geoff, notwithstanding his horror, could not but look with a certain awe upon the worn countenance. It might have been that of a man worn with great labors, with thought, with the high musings of philosophy, or schemes of statesmanship. He was carried down and laid by the side of his brother whom he had killed. All the cottagers, the men from the fields, the passengers on the way, stood looking on, or followed the strange procession. Such a piece of news, as may be supposed, flew over the country like wildfire. There was no family better known than the Bampfyldes, notwithstanding their humble rank. The handsome Bampfyldes: and here they had come to an end!

Old 'Lizabeth, as she made her way to Stanton, was followed everywhere by the same atmosphere of sympathy. The women came out to their doors to look after her, and even strong men sobbed as she passed. What would become of her, poor lonely woman? She gave a great cry when she saw the two pale faces lying peacefully together. They were both men in the full prime of life, in the gravity of middle age, fully developed, strongly knit, men all formed for life, and full of its matured vigor. They lay side by side as they had lain when they were children. That one of them had taken the life of the other, who could have imagined possible? The poacher and vagrant looked like some great general nobly dead in battle—the madman like a sage. Death had redeemed them from their misery, their poverty, the misfortunes which were greater than either. Their mother gave a great cry of anguish yet pride as she stood beside them. "My lads," she cried, "my two handsome lads, my bonny boys!" 'Lizabeth had come to that pass when words have no meaning to express the depths and the heights. What could a woman say who sees her sons stretched dead before her? She

uttered one inarticulate wail of anguish, as a dumb creature might have done, and then, her overwrought soul reeling, tottered almost on the verge of reason, and she cried out in pride and agony, "My handsome lads! my bonny boys!"

"Come home with me," said John Musgrave. "We have made a bad business of it, 'Lizabeth, you and I. This is all our sacrifice has come to. Nothing left but your wreck of life and mine. But come home with me. Where I am, there will always be a place for Lily's mother. And there is little Lily still, and she will comfort you——"

"Eh! comfort me!" She smiled at the word. "Nay, I must go to my own house. I thank you, John Musgrave, and I do not deserve it at your hand. This fifteen years it has been me that has murdered you, not my lad yonder, not my Abel. What did he know? And I humbly beg your pardon, and your little bairns' pardon, on my knees—but nay, nay, I must go home. My own house—there is no other place for me."

They came round her and took her hands, and pleaded with her. Geoff too—and his mother with the tears streaming from her eyes. "Oh, my poor woman, my poor woman!" Lady Stanton cried, "stay here while *they* are here." But nothing moved 'Lizabeth. She made her little curtsy to them all, with that strange smile like a pale light wavering upon her face.

"Nay, nay," she said. "Nay, nay—I humbly thank my lady and my lord, and a' kind friends—but my own house, that is the only place for me."

"But you cannot go so far, if that were all. You must be worn out with walking only—if there was nothing more——"

"Me—worn out!—with walking!" It was a kind of laugh which came from her dry throat. "Ay, very near—very near it—that will come soon if the Lord pleases. But good-day to you all, and my humble thanks, my lord and my lady—you're kind—kind to give them house-room; till Friday—but they'll give no trouble, no trouble!" she said, with again that something which sounded like a laugh. Laughing or crying, it was all one to 'Lizabeth. The common modes

of expression were garments too small for her soul.

"Stay only to-night—it will be dark long before you can be there. Stay to-night," they pleaded. She broke from them with a cry.

"I canna bide this, I canna bide it! I'm wanting the stillness of the fells, and the arms of them about me. Let me be—oh, let me be! There's a moon," she added, abruptly, "and dark or light, I'll never lose my way."

Thus they had to leave her to do as she pleased in the end. She would not eat anything or even sit down, but went out with her hood over her head into the gathering shadows. They stood watching her till the sound of her steps died out on the way—firm, steady, unfaltering steps. Life and death, and mortal anguish, and wearing care had done their worst upon old 'Lizabeth. She stood like a rock against them all.

She came down to the funeral on Friday as she had herself appointed, and saw her sons laid in their grave, and again she was entreated to remain. But even little Lilius, whom her father brought forward to aid the pleadings of the others, could not move her. "Honey-sweet!" she said, with a tender light in her eyes, but she had more room for the children when her heart was full of living cares. It was empty now, and there was no more room. A few weeks after, she was found dying peaceably in her bed, giving all kinds of directions to her children. "Abel will have your father's watch, he aye wanted it from a baby—and Lily gets all my things, as is befitting. They will set her up for her wedding. And Dick, my little Dick, that has aye been the little one—who says I was not thinking of Dick? He's been my prop and my right hand when a' deserted me. The poor little house and the little bit of land, and a' his mother has—who should they be for but Dick?" Thus she died tranquilly, seeing them all round her; and all that was cruel and bitter in the lot of the Bampfylde came to an end.

CHAPTER XL.

CONCLUSION.

JOHN MUSGRAVE settled down without any commotion into his natural place in

his father's house. The old Squire himself mended from the day when Nello, very timid, but yet brave to repress the signs of his reluctance, was brought into his room. He played with the child as if he had been a child himself, and so grew better day by day, and got fatter and fatter again, and save for a little dragging of one leg as he limped along, brought no external sign of his "stroke" out of his sickroom. But he wrote no more Monographs, studied no more. His life had come back to him as the Syrian lord in the Bible got back his health after his leprosy—"like the flesh of a little child." The Squire recovered after a while the power of taking his part in a conversation, and looked more venerable than ever with his faded color and subdued forces. But his real life was all with little Nello, who by and by got quite used to his grandfather, and lorded it over him as children so often do. When the next summer came, they went out together, the Squire generally in a wheeled chair, Nello walking, or riding by his side on the pony his grandpapa had given him. There was no doubt now as to who was heir. When Randolph came to Penninghame, after spending a day and a half in vain researches for Nello—life having become too exciting at that moment at the Castle to leave any one free to send word of the children's safety—he found all doubt and notion of danger over for John—and he himself established for ever in his natural place. Whether the Squire had forgotten everything in his illness, or whether he had understood the story which Mary took care to repeat two or three times very distinctly by his bedside no one knew. But he never objected to John's presence, made no question about him—accepted him as if he had been always there. Absolutely as if there had been no breach in the household existence at all, the eldest son took his place; and that Nello was the heir was a thing beyond doubt in any reasonable mind. This actual settlement of all difficulties had already come about when Randolph came. His father took no notice of him, and John, who thought it was his brother's fault that his little son had been so unkindly treated, found it difficult to afford Randolph any welcome. He did not however want any

welcome in such circumstances. He stayed for a single night, feeling himself coldly looked upon by all. Mr. Pen, who spent half his time at the Castle, more than any one turned a cold shoulder upon his brother clergyman.

"You felt it necessary that the child should go to school quite as much as I did," Randolph said, on the solitary occasion when the matter was discussed.

"Yes, but not to any school," the Vicar said. "I would rather—" he paused for a sufficiently strong image, but it was hard to find. "I would rather—have got up at six o'clock every day, and sacrificed everything—rather than have exposed Nello to the life he had there—and you who are a father yourself."

"Yes; but my boy has neither a girl's name nor a girl's want of courage. He is not a baby that would flinch at the first rough word. I did not know the nature of the thing," said Randolph, with a sneer. "I have no acquaintance with any but straightforward and manly ways."

The Vicar followed him out in righteous wrath. He produced from his pocket a hideous piece of pink paper.

"Do you know who sent this?" he asked.

Randolph looked at it, taken aback, and tried to bluster forth an expression of wonder—

"I—how should I know?"

"What did you mean by it?" cried the gentle Vicar, in high excitement; "did you think I did not know my duty? Did you think I was a cold-blooded reptile like—like the man that sent that? Do you think it was in me to betray my brother? I know nothing bad enough for him who made such a suggestion. And he nearly gained his point. The devil knows what tools to work with. He works with the weakness of good people as well as with the strength of bad," cried mild Mr. Pen, inspired for once in his life with righteous indignation. "Judas did it himself at least, bad as he was. He did not whisper treason in a man's ears nor in a woman's heart."

"I don't know what you mean," said Randolph, with guilt in his face.

"Not all, no; fortunately you don't know, nor any one else, the trouble you

might have made. But no less, though it never came to pass, was it that traitor's fault."

"When you take to speaking riddles I give it up," said Randolph, shrugging his shoulders.

But Mr. Pen was so hot in moral force that he was glad to get away. He slept one night under his father's roof, no one giving him much attention, and then went away, never to return again; but went back to his believing wife, too good a fate, who smoothed him down and healed all his wounds. "My husband is like most people who struggle to do their duty," she said. "His brother was very ungrateful, though Randolph had done so much for him. And the little boy, who had been dreadfully spoiled, ran away from the school when he had cost my husband so much trouble. And even his sister Mary showed him no kindness; that is the way when a man is so disinterested as Randolph, doing all he can for his own family, for their *real* good."

And this, at the end, came to be what Randolph himself thought.

Mrs. Pen, after coming home hysterical from Elfdale, made a clean breast to her husband, and showed him the telegram, and confessed all her apprehensions for him. What could a man do but forgive the folly or even wickedness done for his sweet sake? And Mrs. Pen went through a few dreadful hours, when in the morning John Musgrave came back from his night journey and the warrant was put in force. If they should hang him what would become of her? She always believed afterwards that it was her William's intervention which had saved John, and she never believed in John's innocence, let her husband say what he would. For Mrs. Pen said wisely that wherever there is smoke there must be fire, and it was no use telling her that Lord Stanton had not been killed; for it was in the last edition of the *Fellshire History*, and therefore it must be true.

When all was over Sir Henry and Lady Stanton made a formal visit of congratulation at Penninghame. Sir Henry told John that it had been a painful necessity to issue the warrant, but that a man must do his duty whatever it is; and as, under Providence, this was

the means of making everything clear, he could not regret that he had done it now. Lady Stanton said nothing, or next to nothing. She talked a little to Mary, making stray little remarks about the children, and drawing Nello to her side. Liliás she was afraid of, with those great eyes. Was that child to be Geoff's wife? she thought. Ah! how much better had he been the kind young husband who should have delivered her own Annie or Fanny. This little girl would want nothing of the kind; her father would watch over her, he would let no one meddle with her, not like a poor woman with a hard husband and stepdaughters. She trembled a little when she put her hand into John's. She looked at him with moisture in her eyes.

"I have always believed in you, always hoped to see you here again," she said.

"Come, Mary, the carriage is waiting," said Sir Henry. He said after that this was all that was called for, and here the intercourse between the two houses dropped. Mary could not help "taking an interest" in John Musgrave still, but what did it matter? everybody took an interest in him now.

As for Geoff he became, as he had a way of doing, the son of the house at Penninghame; even the old Squire took notice of his kind, cheerful young face. He neglected Elfdale and his young cousins, and even Cousin Mary whom he loved. But it was not to be supposed that John Musgrave would allow a series of love passages to go on indefinitely for years between his young neighbor and his daughter Liliás, as yet not quite thirteen years old. The young man was sent away after a most affecting parting, not to return for three years. Naturally Lady Stanton rebelled much, she who had kept her son at home during all his life; but what could she do? Instead of struggling vainly she took the wiser part, and though it was a trial to tear herself from Stanton and all the servants, who were so kind, and the household which went upon wheels, upon velvet, and gave her no trouble, she made up her mind to it, and took her maid and Benson and Mr. Tritton and went "abroad" too. What it is to go abroad when a lady is middle-aged and has a grown-up son and such an establish-

ment! but she did it: "for I shall not have him very long," she said with a sigh.

Liliás was sixteen when Geoff came home. Can any one doubt that the child had grown up with her mind full of the young hero who had acted so great a part in her young life? When the old Squire died and Nello went to school, a very different school from Mr. Swan's, the idea of "Mr. Geoff" became more and more her companion. It was not love, perhaps, in the ordinary meaning of the word; Liliás did not know what that meant. Half an elder brother, half an enchanted prince, more than half a hero of romance, he wove himself with every story and every poem that was written, to Liliás. He it was and no Prince Ferdinand whom Miranda thought so fair. It was he who slew all the dragons and giants, and delivered whole dungeons full of prisoners. Her girlhood was somewhat lonely, chiefly because of this soft mist of semi-betrothal which was about her. Not only was she already a woman though a child, but a woman separated from others, a bride doubly virginal because he was absent to whom all her thoughts were due. "What if he should forget her?" Mary Musgrave would say, alarmed. She thought it neither safe nor right for the child who was the beauty and flower of Penninghame, as she herself had been, though in so different a way. Mary now had settled down as the lady of Penninghame, as her brother was its lawful lord. John was not the kind of man to make a second marriage, even if, as his sister sometimes fancied, his first had but little satisfied his heart. But of this he said nothing, thankful to be able at the end to redeem some portion of the life thus swallowed up by one of those terrible but happily rare mistakes, which are no less wretched that they are half divine. He had all he wanted now in his sister's faithful companionship and in his children. There is no more attractive household than that in which, after the storms of life, a brother and sister set up peacefully together the old household gods, never dispersed, which were those of their youth. Mary was a little more careful, perhaps, of her niece, a little more afraid of the troubles in her way than if she had been her daughter.

She watched Liliás with great anxiety, and read between the lines of Geoff's letters with vague scrutiny, looking always for indications of some change.

Liliás was sixteen in the end of October, the third after the previous events recorded here. She had grown to her full height, and her beauty had a dreamy, poetical touch from the circumstances, which greatly changed the natural expression appropriate to the liquid dark eyes and noble features she had from her mother and her mother's mother. Her eyes were less brilliant than they would have been had they not looked so far away, but they were more sweet. Her brightness altogether was tempered and softened, and kept within that modesty of childhood, to which her youthful age really belonged, though nature and life had developed her more than her years. Though she was grown up she kept many of her childish ways, and still sat, as Mary had always done, at the door of the old hall, now wonderfully decorated and restored, but yet the old hall still. The two ladies shared it between them for all their hours of leisure, but Mary had given up her seat at the door to the younger inhabitant, partly because she loved to see Liliás there with the sun upon her, partly because she herself began to feel the cool airs of the north less halcyon than of old. The books that Liliás carried with her were no longer fairy tales, but maturer enchantments of poetry. And there she sat absorbed in verse, and lost to all meaner delights on the eve of her birthday, a soft air ruffling the little curls on her forehead,

the sun shining upon her uncovered head. Liliás loved the sun. She was not afraid of it nor of her complexion, and the sun of October is not dangerous. She had a hand up to shade the book which was too dazzling in the light, but nothing to keep the golden light from her. She sat warm and glorified in the long, slanting, dazzling rays.

Mary had heard a horse's hoofs, and, being a little restless, came forward softly from her seat behind to see who it was; but Liliás, lost in the poetry and the sunshine, heard nothing.

"She wept with pity and delight,
She blushed with love and virgin shame,
And, like the murmur of a dream,
I heard her breathe my name.

"Her bosom heaved—she stepped aside,
As conscious of my look she stepped—
Then suddenly, with timorous eye,
She fled to me and wept."

Mary saw what Liliás did not see, the horseman at the foot of the slope. He looked and smiled, and signed to her over the lovely head in the sunshine. He was brown, and ruddy with health and travel, his eyes shining, his breath coming quick. Three years! as long as a lifetime—but it was over. Suddenly, "Lily—my little Lily," he cried, unable to keep silence more.

She sprang to her feet, like a startled deer; the book fell from her hands; her eyes gave a great gleam and flash, and softened in the golden light of sunset and tenderness. The poetry or the life, which was the most sweet? "Yes, Mr. Geoff," she said.

THE END.

GREEK MOTHER'S SONG.

1.

O WHERE is peace in all the lovely land?
Since the world was, I see the fair and brave
Downward for ever fighting toward the grave.
A few white bones upon a lonely sand,
A rotting corpse beneath the meadow grass
That cannot hear the footsteps as they pass,
Memorial urns pressed by some foolish hand
Have been for all the goal of troublous fears.
Ah! breaking hearts and faint eyes dim with tears,
And momentary hopes by breezes fanned
To flame that fading ever falls again
And leaves but blacker night and deeper pain,
Have been the mould of life in every land.

II.

O is there rest beneath the meadow flowers?
 Or is there peace indeed beside the shore
 Of shadowy Acheron? nor any more
 The weary rolling of the sickening hours
 Will mark the interchange of woe and woe;
 Nor ever voices railing to and fro
 Break the sweet silence of those darksome bowers?
 But there is a sorrowful sweet harmony
 Of timeless life in peaceful death shall be
 In woodlands dim where never tempest lowers
 Nor branding heat can pierce the sunless shade.
 O sweet for ever in that dreamful glade,
 If there indeed such deepest peace be ours!

—*Macmillan's Magazine.*

AN OXFORD LECTURE.*

BY PROFESSOR JOHN RUSKIN.

I AM sure that all in this audience who were present yesterday at Dr. Acland's earnest and impressive lecture must have felt how deeply I should be moved by his closing reference to the friendship begun in our undergraduate days;—of which I will but say that, if it alone were all I owed to Oxford, the most gracious kindness of the Alma Mater would in that gift have been fulfilled to me.

But his affectionate words, in their very modesty, as if even standing on the defence of his profession, the noblest of human occupations! and of his science—the most wonderful and awful of human intelligences! showed me that I had yet not wholly made clear to you the exactly limited measure in which I have ventured to dispute the fitness of method of study now assigned to you in this University.

Of the dignity of physical science, and of the happiness of those who are devoted to it for the healing and the help of mankind, I never have meant to utter, and I do not think I *have* uttered, one irreverent word. But against the curi-

osity of science, leading us to call virtually nothing gained but what is new discovery, and to despise every use of our knowledge in its acquisition; of the insolence of science, in claiming for itself a separate function of that human mind which in its perfection is one and indivisible, in the image of its Creator; and of the perversion of science, in hoping to discover by the analysis of death, what can only be discovered by the worship of life,—of these I have spoken, not only with sorrow, but with a fear which every day I perceive to be more surely grounded, that such labor, in effacing from within you the sense of the presence of God in the garden of the earth, may awaken within you the prevailing echo of the first voice of its Destroyer, 'Ye shall be as gods.'

To-day I have little enough time to conclude,—none to review—what I have endeavored thus to say; but one instance, given me directly in conversation after lecture, by one of yourselves, will enable me to explain to you precisely what I mean.

After last lecture, in which you remember I challenged our physiologists to tell me how a bird flies, one of you, whose pardon, if he thinks it needful, I ask for this use of his most timely and illustrative statement, came to me, saying, 'You know the way in which we are shown how a bird flies, is, that any one, a dove for instance, is given to us, plucked, and

* Left, at the Editor's request, with only some absolutely needful clearing of unintelligible sentences, as it was written for free delivery. It was the last of a course of twelve given this autumn;—refers partly to things already said, partly to drawings on the walls; and needs the reader's pardon throughout, for faults and abruptnesses incurable but by re-writing the whole as an essay instead of a lecture.

partly skinned, and incised at the insertion of the wing bone; and then, with a steel point, the ligament of the muscle at the shoulder is pulled up, and out, and made distinct from other ligaments, and we are told "that is the way a bird flies," and on that matter it is thought we have been told enough.*

I say that this instance given me was timely; I will say more—in the choice of this particular bird, providential. Let me take, in their order, the two subjects of inquiry and instruction, which are indeed offered to us in the aspect and form of that one living creature.

Of the splendor of your own true life, you are told, in the words which, to-day, let me call, as your Fathers did, words of inspiration—"Yet shall ye be as the wings of a dove, that is covered with silver wings and her feathers with gold." Of the manifold iris of color in the dove's plumage, watched carefully in sunshine as the bird moves, I cannot hope to give you any conception by words; but that it is the most exquisite, in the modesty of its light and in the myriad mingling of its hue, of all plumage, I may partly prove to you in this one fact, that out of all studies of color, the one which I would desire most to place within your reach in these schools, is Turner's drawing of a dove, done when he was in happy youth at Farnley. But of the causes of this color, and of the peculiar subtlety in its iridescence, nothing is told you in any scientific book I have ever seen on ornithology.

Of the power of flight in these wings, and the tender purpose of their flight, you hear also in your Father's book. To the Church, flying from her enemies into desolate wilderness, there were indeed given two wings as of a great eagle. But the weary saint of God, looking forward to his home in calm of eternal peace, prays rather—"Oh, that I had wings like a dove, for then should I flee away, and be at rest." And of these wings, and this mind of hers, this is what reverent science should teach you: first, with what parting of plume, and what soft pressure and rhythmic beating of divided air, she reaches that miraculous swiftness of undubious motion, compared with which the tempest is slow, and the arrow uncertain; and secondly, what clue there is, visible, or conceivable to thought of man, by which, to her living

conscience and errorless pointing of magnetic soul, her distant home is felt afar beyond the horizon, and the straight path, through concealing clouds, and over trackless lands, made plain to her desire, and her duty, by the finger of God.

And lastly, since in the tradition of the Old Covenant she was made the messenger of forgiveness to those eight souls saved through the baptism unto death, and in the Gospel of the New Covenant, under her image, was manifested the well-pleasing of God, in the fulfilment of all righteousness by his Son in the Baptism unto life,—surely alike all Christian people, old and young, should be taught to be gladdened by her sweet presence; and in every city and village in Christendom she should have such home as in Venice she has had for ages, and be, among the sculptured marbles of the temple, the sweetest sculpture; and, fluttering at your children's feet, their never-angered friend. And surely also, therefore, of the thousand evidences which any carefully thoughtful person may see, not only of the ministration of good, but of the deceiving and deadly power of the evil angels, there is no one more distinct in its gratuitous, and unreconcilable sin, than that this—of all the living creatures between earth and sky—should be the one chosen to amuse the apathy of our murderous idleness, with skill-less, effort-less, merciless slaughter.

I pass to the direct subject on which I have to speak finally to-day;—the reality of that ministration of the good angels, and of that real adversity of the principalities and powers of Satan, in which, without exception, all earnest Christians have believed, and the appearance of which, to the imagination of the greatest and holiest of them, has been the root, without exception, of all the greatest art produced by the human mind or hand in this world.

That you have at present no art properly so called in England at all—whether of painting, sculpture, or architecture*—I, for one, do not care. In

* Of course, this statement is merely a generalisation of many made in the preceding lectures, the tenor of which any readers acquainted with my recent writings may easily conceive.

midst of Scottish Lothians, in the days of Scott, there was, by how much less art, by so much purer life, than in the midst of Italy in the days of Raphael. But that you should have lost, not only the skill of Art, but the simplicity of Faith and life, all in one, and not only here deface your ancient streets by the Ford of the waters of sacred learning, but also deface your ancient hills with guilt of mercenary desolation, driving their ancient shepherd life into exile, and diverting the waves of their streamlets into the cities which are the very centres of pollution, of avarice, and impiety: for this I *do* care,—for this you have blamed me for caring, instead of merely trying to teach you drawing. I have nevertheless yet done my best to show you what real drawing is; and must yet again bear your blame for trying to show you, through that, somewhat more.

I was asked, as we came out of chapel this morning, by one of the Fellows of my college, to say a word to the Undergraduates, about Thirlmere. His request, being that of a faithful friend, came to enforce on me the connection between this form of spoliation of our native land of its running waters, and the gaining disbelief in the power of prayer over the distribution of the elements of our bread and water, in rain, and sunshine,—seed-time, and harvest. Respecting which, I must ask you to think with me to-day what is the meaning of the myth, if you call it so, of the great prophet of the Old Testament, who is to be again sent before the coming of the day of the Lord. For truly, you will find that if any part of your ancient faith be true, it is needful for every soul which is to take up its cross, with Christ, to be also first transfigured in the light of Christ,—talking with Moses and with Elias.

The contest of Moses is with the temporal servitude,—of Elijah, with the spiritual servitude, of the people; and the war of Elijah is with their servitude essentially to two Gods, Baal, or the Sun God, in whose hand they thought was their life, and Baalzebub—the Fly God,—of Corruption, in whose hand they thought was the arbitration of death.

The entire contest is summed in the first assertion by Elijah, of his authority

as the Servant of God, over those elemental powers by which the heart of Man, whether Jew or heathen, was filled with food and gladness.

And Elijah the Tishbite, who was of the inhabitants of Gilead, said unto Ahab, 'As the Lord God of Israel liveth, before whom I stand, there shall not be dew nor rain these years, but according to my word.'

Your modern philosophers have explained to you the absurdity of all that; you think? Of all the shallow follies of this age, that proclamation of the vanity of prayer for the sunshine and rain; and the cowardly equivocations, to meet it, of clergy who never in their lives really prayed for anything, I think, excel. Do these modern scientific gentlemen fancy that nobody, before they were born, knew the laws of cloud and storm, or that the mighty human souls of former ages, who every one of them lived and died by prayer, and in it, did not know that in every petition framed on their lips they were asking for what was not only fore-ordained, but just as probably *fore-done*? or that the mother pausing to pray before she opens the letter from Alma or Balaclava, does not know that already he is saved for whom she prays, or already lies festering in his shroud? The whole confidence and glory of prayer is in its appeal to a Father who knows our necessities before we ask, who knows our thoughts before they rise in our hearts, and whose decrees, as unalterable in the eternal future as in the eternal past, yet in the close verity of visible fact, bend, like reeds, before the fore-ordained and faithful prayers of his children.

Of Elijah's contest on Carmel with that Sun-power in which, literally, you again now are seeking your life, you know the story, however little you believe it. But of his contest with the Death-power, on the hill of Samaria, you read less frequently, and more doubtfully.

'Oh, thou Man of God, the King hath said, Come down. And Elijah answered and said, If I be a man of God, let fire come down from Heaven, and consume thee, and thy fifty.'

How monstrous, how revolting, cries your modern religionist, that a prophet of the Lord should invoke death on fifty men. And he sits himself, enjoying his

muffin and *Times*, and contentedly allows the slaughter of fifty thousand men, so it be in the interests of England, and of his own stock on Exchange.

But note Elijah's message. 'Because thou hast sent to inquire of Baalzebub the God of Ekron, therefore, thou shalt not go down from the bed on which thou art gone up, but shalt surely die.'

'Because thou has sent to inquire : ' He had not sent to *pray* to the God of Ekron, only to *ask* of him. The priests of Baal *prayed* to Baal, but Ahaziah only *questions* the fly-god.

He does not 'pray' 'Let me recover,' but he asks ' *Shall* I recover of this disease ? '

The scientific mind again, you perceive,—Sanitary investigation ; by oracle of the God of Death. Whatever can be produced of disease, by flies, by aphides, by lice, by communication of corruption, shall not we moderns also wisely inquire, and so recover of our diseases ?

All which may, for aught I know, be well ; and when I hear of the vine disease or potato disease being stayed, will hope also that plague may be, or diphtheria, or aught else of human plague, by due sanitary measures.

In the meantime, I see that the common cleanliness of the earth and its water is despised, as if it were a plague ; and after myself laboring for three years to purify and protect the source of the loveliest stream in the English midlands, the Wandle, I am finally beaten, because the road commissioners insist on carrying the road-washings into it, at its source. But that's nothing. Two years ago, I went, for the first time since early youth, to see Scott's country by the shores of Yarrow, Teviot, and Gala waters. I will read you once again, though you well remember it, his description of one of those pools which you are about sanitarily to draw off into your engine boilers, and then I will tell you what I saw myself in that sacred country.

Oft in my mind such thoughts awake,
By lone Saint Mary's silent lake ;
Thou know'st it well,—nor fen, nor sedge,
Pollute the pure lake's crystal edge ;
Abrupt and sheer, the mountains sink
At once upon the level brink ;
And just a trace of silver sand
Marks where the water meets the land.

NEW SERIES.—VOL. XXVII., No. 3

Far in the mirror, bright and blue,
Each hill's huge outline you may view ;
Shaggy with heath, but lonely bare,
Nor tree, nor bush, nor brake, is there,
Save where, of land, yon slender line
Bears thwart the lake the scatter'd pine.

And silence aids—though the steep hills
Send to the lake a thousand rills ;
In summer tide, so soft they weep,
The sound but lulls the ear asleep ;
Your horse's hoof-tread sounds too rude,
So stilly is the solitude.

Nought living meets the eye or ear,
But well I ween the dead are near ;
For though, in feudal strife, a foe
Hath lain Our Lady's chapel low,
Yet still, beneath the hallow'd soil,
The peasant rests him from his toil,
And, dying, bids his bones be laid,
Where erst his simple fathers pray'd.

What I saw myself, in that fair country, of which the sight remains with me, I will next tell you. I saw the Teviot oozing, not flowing, between its wooded banks, a mere sluggish injection, among the filthy stones, of poisonous pools of scum-covered ink ; and in front of Jedburgh Abbey, where the foaming river used to dash round the sweet ruins as if the rod of Moses had freshly cleft the rock for it, bare and foul nakedness of its bed, the whole stream carried to work in the mills, the dry stones and crags of it festering unseemly in the evening sun, and the carcase of a sheep, brought down in the last flood, lying there in the midst of the children at their play, literal and ghastly symbol, in the sweetest pastoral country in the world, of the lost sheep of the house of Israel.

That is your symbol to-day, of the Lamb as it had been slain ; and that the work of your prayerless science ;—the issues, these of your enlightened teaching, and of all the toils and the deaths of the Covenanters on those barren hills of the prophetic martyrs here in your crossing streets, and of the highest, sincerest, simplest patriot of Catholic England, Sir Thomas More, within the walls of England's central Tower. So is ended, with prayer for the bread of this life, also the hope of the life that is to come. Yet I will take leave to show you the light of that hope, as it shone on, and guided, the children of the ages of faith.

Of that legend of St. Ursula which I

read to you so lately, you remember, I doubt not, that the one great meaning is the victory of her faith over all fears of death. It is the laying down of all the joy, of all hope, nay of all the Love, of this life, in the eager apprehension of the rejoicing and the love of Eternity. What truth there was in such faith I dare not say that I know; but what manner of human souls it made, you may for yourselves see. Here are enough brought to you, of the thoughts of a believing people.* This maid in her purity is no fable; this is a Venetian maid, as she was seen in the earthly dawn, and breathed on by the breeze of her native sea. And here she is in her womanhood, in her courage and perfect peace, waiting for her death.

I have sent for this drawing for you, from Sheffield, where it is to stay, they needing it more than you. It is the best of all that my friend did with me at Venice, for St. George, and with St. George's help and St. Ursula's. It shows you only a piece of the great picture of the martyrdom—nearly all have fallen around the maid, and she kneels, with her two servant princesses, waiting for her own death. Faithful behind their mistress, they wait with her,—not feebler, but less raised in thought, as less conceiving their immortal destiny; he one, a gentle girl, conceiving not in her quiet heart any horror of death, bows her fair head towards the earth, almost with a smile; the other, fearful lest her faith should for an instant fail, bursts into passion of prayer through burning tears. St. Ursula kneels, as daily she knelt, before the altar, giving herself up to God for ever.

And so you see her, here in the days of childhood, and here in her sacred youth, and here, in her perfect womanhood, and here, borne to her grave.

Such creatures as these *have* lived—do live yet, thank God, in the faith of Christ.

You hear it openly said that this, their faith, was a foolish dream. Do you choose to find out whether it was or not? You may if you will, but you can find it out in one way only.

* The references were to the series of drawings lately made, in Venice, for the Oxford and Sheffield schools, from the works of Carpaccio, by Mr. Fairfax Murray.

Take the dilemma in perfect simplicity. Either Christianity is true or not. Let us suppose it first one, then the other, and see what follows.

Let it first be supposed untrue. Then rational investigation will in all probability discover that untruth; while, on the other hand, irrational submission to what we are told may lead us into any form of absurdity or insanity; and, as we read history, we shall find that this insanity has perverted, as in the Crusades, half the strength of Europe to its ruin, and been the source of manifold dissension and misery to society.

Start with the supposition that Christianity is untrue, much more, with the desire that it should be, and that is the conclusion at which you will certainly arrive.

But, on the other hand, let us suppose that it is, or may be, true. Then, in order to find out whether it is or not, we must attend to what it says of itself. And its first saying is an order to adopt a certain line of conduct. *Do* that first, and you shall know more. Its promise is of blessing and of teaching, more than tongue can utter, or mind conceive, if you choose to do this; and it refuses to teach or help you on any other terms than these.

You may think it strange that such a trial is required of you. Surely the evidences of our future state might have been granted on other terms—nay, a plain account might have been given, with all mystery explained away in the clearest language. *Then*, we should have believed at once!

Yes, but, as you see and hear, that, if it be our way, is not God's. He has chosen to grant knowledge of His truth to us on one condition and no other. If we refuse that condition, the rational evidence around us is all in proof of our death, and that proof is true, for God also tells us that in such refusal we shall die.

You see, therefore, that in either case, be Christianity true or false, death is demonstrably certain to us in refusing it. As philosophers, we can expect only death, and as unbelievers, we are condemned to it.

There is but one chance of life—in admitting so far the possibility of the Christian verity as to try it on its own

terms. There is not the slightest possibility of finding out whether it be true, or not, first.

'Show me a sign first and I will come,' you say. No, answers God. 'Come first, then you shall see a sign.'

Hard, you think? You will find it is not so, on thinking more. For this, which you are commanded, is not a thing unreasonable in itself. So far from that, it is merely the wisest thing you could do for your own and for others' happiness, if there were no eternal truth to be discovered.

You are called simply to be the servant of Christ, and of other men for His sake; that is to say, to hold your life and all its faculties as a means of service to your fellows. All you have to do is to be sure it *is* the service you are doing them, and not the service you do yourself, which is uppermost in your minds.

Now you continually hear appeals to you made in a vague way, which you don't know how far you can follow. You shall not say that, to-day; I both can and will tell you what Christianity requires of you in simplest terms.

Read your Bible as you would any other book—with strictest criticism, frankly determining what you think beautiful, and what you think false or foolish. But be sure that you try accurately to understand it, and transfer its teaching to modern need by putting other names for those which have become superseded by time. For instance, in such a passage as that which follows and supports the 'Lie not one to another' of Colossians iii.—'seeing that ye have put on the new man, which is renewed in knowledge after the spirit of him that created him, where,' (meaning in that great creation where) 'there is neither Greek nor Jew, circumcision nor uncircumcision, barbarian, Scythian, bond nor free.' In applying that verse to the conduct and speech of modern policy, it falls nearly dead, because we suffer ourselves to remain under a vague impression—vague, but practically paralysing,—that though it was very necessary to speak the truth in the countries of Scythians and Jews, there is no objection to any quantity of lying in managing the affairs of Christendom. But now merely substitute modern for ancient names, and see what a difference it will

make in the force and appeal of the passage, 'Lie not one to another, brethren: seeing that ye have put off the old man, with his deeds, and have put on the new man, which is renewed to knowledge,' *εἰς ἐπίγνωσιν*, according to the knowledge of Him that created him, in that great creation where there is neither Englishman nor German, baptism nor want of baptism, Turk nor Russian, slave nor free, but Christ is all, and in all.

Read your Bible, then, making it the first morning business of your life to understand some piece of it clearly, and your daily business to obey of it all that you understand, beginning first with the most human and most dear obedience—to your father and mother. Doing all things as they would have you do, for the present: if they want you to be lawyers—be lawyers; if soldiers—soldiers; if to get on in the world—even to get money—do as they wish, and that cheerfully, after distinctly explaining to them in what points you wish otherwise. Theirs is for the present the voice of God to you.

But, at the same time, be quite clear about your own purpose, and the carrying out of that so far as under the conditions of your life you can. And any of you who are happy enough to have wise parents will find them contented in seeing you do as I now tell you.

First cultivate all your personal powers, not competitively, but patiently and usefully. You have no business to read in the long vacation. Come *here* to make scholars of yourselves, and go to the mountains or the sea to make men of yourselves. Give at least a month in each year to rough sailors' work and sea fishing. Don't lounge and flirt on the beach, but make yourselves good seamen. Then, on the mountains, go and help the shepherd at his work, the woodmen at theirs, and learn to know the hills by night and day. If you are staying in level country, learn to plough and whatever else you can that is useful. Then here in Oxford, read to the utmost of your power, and practise singing, fencing, wrestling, and riding. No rifle practice, and no racing—boat or other. Leave the river quiet for the naturalist, the angler, and the weary student like me.

You may think all these matters of no consequence to your studies of art and divinity; and that I am merely crotchety and absurd. Well, that is the way the devil deceives you. It is not the sins which we *feel* sinful, by which he catches us; but the apparently healthy ones,—those which nevertheless waste the time, harden the heart, concentrate the passions on mean objects, and prevent the course of gentle and fruitful thought.

Having thus cultivated, in the time of your studentship, your powers truly to the utmost, then, in your manhood, be resolved they shall be spent in the true service of men—not in being ministered unto, but in ministering. Begin with the simplest of all ministries—breaking of bread to the poor. Think first of that, not of your own pride, learning, comfort, prospects in life: nay, not now, once come to manhood, may even the obedience to parents check your own conscience of what is your Master's work. 'Whoso loveth father and mother more than me is not worthy of me.' Take the perfectly simple words of the Judgment, 'Inasmuch as ye did it unto one of the least of these, ye did it unto me:' but you must *do* it, not preach it. And you must not be resolved that it shall be done only in a gentlemanly manner. Your pride must be laid down, as your avarice, and your fear. Whether as fishermen on the sea, ploughmen on the earth, laborers at the forge, or merchants at the shop-counter, you must break and distribute bread to the poor, set down in companies—for that also is

literally told you—upon the green grass, not crushed in heaps under the pavement of cities. Take Christ at His literal word, and, so sure as His word is true, He will be known of you in breaking of bread. Refuse that servant's duty because it is plain,—seek either to serve God, or know Him, in any other way: your service will become mockery of Him, and your knowledge darkness. Every day your virtues will be used by the evil spirits to conceal, or to make respectable, national crime; every day your felicities will become baits for the iniquity of others; your heroisms, wreckers' beacons, betraying them to destruction; and before your own deceived eyes and wandering hearts every false meteor of knowledge will flash, and every perishing pleasure glow, to lure you into the gulf of your grave.

But obey the word in its simplicity, in wholeness of purpose and with serenity of sacrifice, like this of the Venetian maid's, and truly you shall receive sevenfold into your bosom in this present life, as in the world to come, life everlasting. All your knowledge will become to you clear and sure, all your footsteps safe; in the present brightness of domestic life you will foretaste the joy of Paradise, and to your children's children bequeath, not only noble fame, but endless virtue. 'He shall give his angels charge over you to keep you in all your ways; and the peace of God, which passeth all understanding, shall keep your hearts and minds through Christ Jesus.'—*The Nineteenth Century*.

UNDER FIRE.

MOST men who have been under fire will frankly confess that the sensation is anything but a pleasant one. But inspired by a sense of duty and a lively enthusiasm, the anxious feeling soon passes off. The skirmishers load and fire, the gunners work their guns without much thought of their own danger. Indeed it is well if this indifference does not go too far, for then reckless 'excitement and careless haste take the place of soldierly deliberation and prudence.

At Waterloo the fighting between two armies armed with old weapons of short

range was all at what we now call close-quarters. The most effective range for artillery was about five hundred yards, and musketry-fire was exchanged at less than half that distance. Rifled weapons of long range have changed all this, and the introduction of breech-loading small-arms has worked a perfect revolution on the battle-field. In 1866 the Prussian needle-gun shewed in the fighting in Bohemia the terrible effects that can be produced by rapid rifle-fire. Every army in Europe was soon provided with breech-loading rifles; and in

the war of 1870, for the first time two great armies thus formidably armed met in battle. In the first conflicts of the war the Prussians attacked in close order, as they had done in 1866; but in the great battle of Gravelotte, fought on August 18, 1870, they learned a lesson which made them completely change their tactics; and every European army (but one) has followed their example. The lesson was dearly bought. On that day the French army, one hundred and twenty thousand strong, lay along the hills to the west of Metz, where it was attacked by two hundred thousand Germans. The village of St. Privat, on holding which the security of the whole French position depended, was held by Marshal Canrobert's corps. The village is surrounded by long gentle slopes; and in fighting it is always found that it is more difficult to storm such a place than one that stands upon a steep hill. The very steepness of the ascent in some degree protects the attacking party as they ascend, by making the fire of the defenders more vertical; whereas on a gentle slope each bullet has a longer course and more chances of doing harm. As a preparation for the attack on St. Privat, and in order in some degree to destroy the steadiness of the defenders, the place was bombarded for some time with one hundred and twenty guns; then when it was hoped that the artillery fire had cleared the way, three brigades of the Guards, the picked men of the German army, were ordered to carry the village.

Massed in close order, with a front of two thousand paces, and covered by clouds of skirmishers, the Guards began their advance up the slopes. In ten minutes the attack was over, and had utterly failed. Brief as it was, it was a terrible time. The German official Report does not deal in exaggerated language, and it speaks of the 'storm of bullets that came beating down from St. Privat' and forced the Guardsmen to crowd together in every hollow and behind every wave of the ground. The French used their chassepots to deadly purpose; in those ten minutes six thousand of the Prussian Guard had fallen. But the rapid fire of the French had all but emptied their cartridge-boxes, and the defective arrangements made by the

staff had not provided properly for supplying the deficiency. This is always a danger to which men armed with the breech-loader are liable, and it is an awkward one, for in modern war the man who is without cartridges is virtually disarmed. The cartridges of the dead and wounded were collected and distributed; but this was a poor resource. The enemy had formed new columns of attack, composed of Saxon and Prussian troops, and these, though not without heavy loss, carried the village, and decided the battle which shut Marshal Bazaine and his great army up in Metz. The day after Gravelotte was fought and won, the German headquarters staff published an order that an attack in heavy masses like that which had won Sadowa but had failed at St. Privat should never be attempted again.

The deadliness of breech-loading fire has produced another effect upon tactics in battle. The spade has taken a place second only to the rifle, and no General occupies a position in battle even for a couple of hours without rapidly strengthening it with light intrenchments. These consist generally of a shallow trench, the earth from which is thrown up towards the enemy, so as to form a little parapet in front of it. This is the shelter-trench which we hear of so often in war correspondence. Effective shelter-trenches can be constructed in from eighteen minutes to half an hour, according to the nature of the ground and the skill of the men engaged in the work; and they have this advantage, that they can be continually improved, the trench being deepened, the parapet raised, and a ditch formed outside it, if the position is occupied long enough; so that what was at first a mere shelter-trench, gradually becomes a formidable line of earthworks. A trench is a very efficient protection against artillery-fire, for unless the shells drop actually into it, or upon the parapet, the fragments are not likely to hurt the men crouching or lying down in it; and such accurate hits are rare, most of the projectiles falling a little behind or a little short of the line aimed at.

It is a fact that the actual number of men put *hors de combat* by artillery-fire is very few in any case. It really is

meant to produce an effect on the *morale* of the troops attacked; that is to say, to make them nervous, excited, liable to panic, and apt to give way before a sudden onset. Hundreds of shells exploding on the ground and in the air, and scattering showers of fragments on all sides, dropping neatly over walls and barricades, crashing through walls and roofs, and searching woods and thickets are apt to gradually break down the nerve of all but the steadiest men.

As a matter of actually killing and maiming a large number of the enemy, it is coming to be believed that the old artillery of Napoleon's days used at close quarters, that is at about four hundred yards, against heavy masses, was more deadly than the modern rifled gun. Artillery is now effective up to two thousand five hundred yards, and sometimes even beyond that range. Rifle-fire generally begins at four hundred yards, though picked marksmen may be engaged at longer ranges. The ordinary fighting range of the rifle is thus now equal to that of the field-gun of thirty years ago, and the accuracy of the fire is increased in even a greater ratio. With the old musket the chances of a bullet finding a human billet were extremely uncertain. At one hundred yards there was a deviation of two feet to right or left, which at two hundred yards had increased to more than six feet. The average deviation of the Martini-Henry is about seven inches at three hundred yards, a little less than a foot at five hundred, and about twenty inches at eight hundred; or less than the error of the old musket at one hundred yards. Without aiming, a rapidity of fire equal to twenty-five shots per minute has been obtained with the Martini-Henry with which our army is now furnished. How different from the weapons used in the Peninsula and at Waterloo.

Yet it is singular that the proportion which the loss in battle bears to the number of men engaged is on the whole decreasing, notwithstanding (or perhaps in consequence of) improved armaments. At Marengo in 1800 the loss in killed and wounded amounted to one-sixth of the effective force engaged; at Austerlitz (1805) it was one-seventh; at Preuss-Eylau (1807), as much as one-

third; at Wagram (1809), rather more than one-ninth; at Borodino (1812), one-fourth; and at Waterloo (1815), rather more than one-sixth. Coming now to more recent battles, we find that at Solferino (1859), the loss was only one-fourteenth; at Sadowa (1866), one-eleventh; at Gravelotte, (1870), one-ninth; at Sedan, only one-seventeenth. It would seem that the diminution of the loss is the result of the open order, the use of cover, and the briefness of the struggle at the decisive points, where, on account of the severity of the fighting, it cannot last very long. Men will stand longer under a fire that knocks over only one man in a minute, than they will under one that kills a score in the same time. The heavy fighting at Plevna before its fall, was an exception to this diminution of loss, for in one of their attacks the Russians lost as much as one-fifth, but this was the result of their fighting in heavy columns, in defiance of the experience of 1870. Statistics from both the Russian and the German armies shew that at all times the officers in proportion to their numbers lose more than the men. Naturally they are liable to attract attention and to be picked off by the enemy's marksmen.

With the immense armies of our day the total loss of men is enormous. At Sadowa the Prussians lost 10,000 men out of 215,000 engaged; the Austrians and Saxons 30,000 out of 220,000. At Gravelotte the French, 120,000 strong, lost 14,000; the Germans 20,000 out of 200,000. At Sedan the losses of the Germans were 10,000; of the French, 14,000. The heaviness of the German loss at the battle of Gravelotte was, as we have already said, largely due to the failure of the Guards at St. Privat.

From these statistics of loss in battle it may be imagined what a painful task and what severe labor are thrown upon the army which remains in possession of a battle-field at the end of the fight. The length of the lines in a general engagement like Sadowa is enormous, ranging from ten to fifteen miles; and the depth of the tract over which the fighting rolls perhaps from two or three to five or six miles; so that the 'battle-field' is a tract of country from thirty to eighty square miles in extent, and

this immense tract is strewn with thirty or forty thousand killed and wounded. Here they lie scattered, so that it is a long walk from one fallen man to another; but over there on that hill-side, or in that village where the fight was close and hot, they are thrown together in little heaps, and there is no need of searching for them. Wherever there is water, wounded men are sure to be found, who have dragged themselves down to it. Perhaps they are dead at the brink. There is little blood to be seen; the rivers of blood shed on the battle-field exist only in poetry. Of the actual blood in a pool here and there on the field, most has come from cavalry or artillery horses killed by shell-fire.

The victors in the fight have thrown on their hands not only their own wounded, but those of the enemy. The hurried telegram which announces their success gives also in round numbers a rough estimate of the loss on both sides; generally it is an unintentional exaggeration, for it is hard to judge correctly. In two or three days the real numbers are known; for the dead have been collected, counted, and buried, with great mounds of earth that will mark the battle-field for centuries, and shew too where the fight was hottest. The wounded, much more numerous than the [dead, have been collected in the field-hospitals, and as many as possible are being sent off by train to the great hospitals of distant cities, in order to relieve the strain upon the resources of the medical staff and the volunteer aid societies working in the field. Hard work it is to deal with the immense mass of suffering men. Think what it is to have to arrange suddenly for even two cases of severe illness in an ordinary household, and then try to imagine what labor, care and forethought are required to provide for many thousands of wounded men in the open country.

The care for the wounded begins while the fight is actually in progress. No help is so efficient as that which comes at once. A man is hit. If the wound is slight, he perhaps does not know anything about it till the fight is over, when he perceives that there is something wrong with his leg or his side; or if he does perceive it, he is able to bandage it at once with a hand-

kerchief, or the bandage that now is carried by almost every soldier. The surgeon of the battalion gives him his assistance if he is at hand; but most men have to do without him if the work is hot, for he cannot multiply himself or be everywhere, though he does his best to accomplish something like it. In most armies, if the men are attacking, he can only attend to the slightly hurt, who are able to keep up with the rest. It is only when the battalion is halted or on the defensive that he can attend to the more seriously injured who fall, for they must not be left behind. The first help is always the most important; given at once to a slightly wounded man, it saves him from having to go into hospital and keeps him in the ranks; given to a fallen man, it probably saves his life. The great danger is exhaustion from loss of blood or from the nervous shock that follows a bullet-wound, which makes a man seem as if he were dying, though with a little help it soon passes off. To stop the bleeding with a tourniquet or a bandage, to give a drink of water or a little brandy, is the aid needed at the outset. This is done actually under fire.

The next help is provided by the field ambulances, or as they are very appropriately called in our service, 'dressing-stations;' these are established in shelter-places upon the actual battle-field in rear of the fighting line. Sometimes an inn, a farmhouse, or some barn is available for this purpose; if not, there are hospital tents or the shade of trees. Here is to be found a staff of surgeons and dressers, with appliances for the more necessary operations, and a store of stimulants and sustaining food. To bring the wounded men out of the firing, there are attached to each regiment a few trained bearers with stretchers. These bearers being provided, no man is allowed to leave the ranks to help the wounded; otherwise, every man that fell would be the means of withdrawing two others from the fight, and whole companies might melt rapidly away. The bearers remove as many as they can to the dressing-stations; they take those nearest to hand, and the wounded man who attracts their attention is lucky. Many more less fortunate than he have to wait till the battle is over, for com-

paratively few can be carried off during the actual fighting. Some, though too disabled to remain in the fight, can themselves make their way to the stations. They ask their way of any bearers they meet; or if they meet none, they look out anxiously for the white flag with the red cross that flies over the little harbor of refuge of which they are in search. The wounded men who are thus brought or come into the stations have their wounds dressed by the surgeons, with the help of chloroform if necessary; a record of the nature of the wound and of the treatment so far is rapidly written on a card; and if the man will bear removal, his stretcher is placed in an ambulance-wagon, and an easy journey of three or four miles places him in the field-hospital, established in tents or buildings well out of even long-range artillery-fire.

These field-hospitals, rapidly organised with *matériel* that is conveyed with every well-organised army, can accommodate several hundreds of men; and while the battle proceeds, fresh field-hospitals are being got ready wherever buildings or tents are available, for the night will bring in a host of patients. At first there are few men in them; most of the wounded that have been treated are still at the field ambulances. In the evening they arrive more rapidly; next day they come in crowds, and the hospitals are encumbered with them. And now the railway system of the country comes to the help of the overburdened medical staff. Hospital trains—that is to say trains fitted with hanging-beds or stretchers, and provided with nurses and surgeons—carry back to the hospitals of great cities in the rear, all those of the wounded who can safely bear the journey. Gradually death, recovery, or removal clears the field-hospitals; one by one they are closed, their *matériel* and appliances are packed in the wagons, of

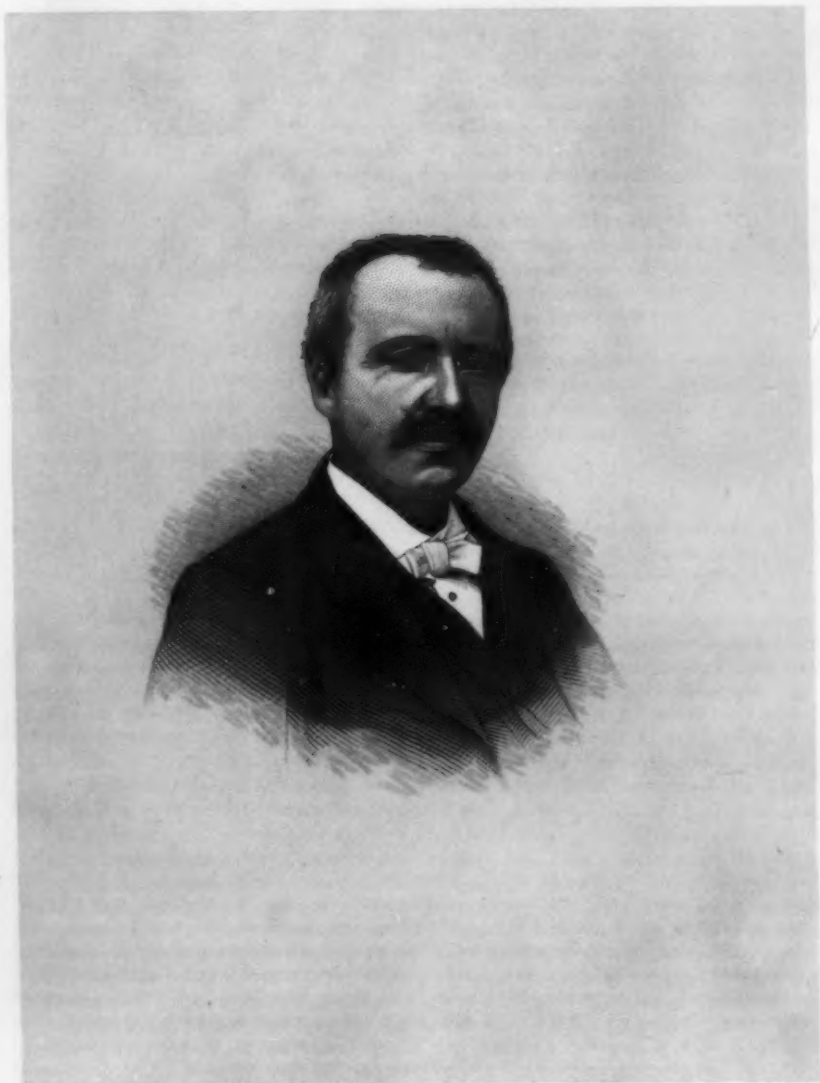
the hospital service, and with their staff of surgeons, dressers, and nurses, they follow the armies in the field. Meanwhile the hospital trains have distributed the wounded into the permanent hospitals at home or into special ones provided for the war. If the army is an English one, ships comfortably fitted up as hospitals have received the wounded at the nearest coast to the battle-field, and they are lying in comfortable hammocks, between airy decks, perhaps at anchor in some roadstead, or better still, going rapidly under sail and steam towards home.

We can dwell with satisfaction on this work of mercy, in which so many willing hands engage to repair, as far as can be done, the wreck and ruin of war. It is a work of mercy which ought to bind nations together, for men of many lands meet to labor under the red cross of mercy wherever war devastates Europe. For many, alas! the help comes too late; the bullet has done its work swiftly and surely; life is gone; or the wound is mortal and the sufferer dies, and will lie under the long green battle-mound. An officer will look at the tablet under his uniform that gives the name and corps of the fallen man, and make an entry in his list of dead; and the news is sent to his friends far away at home. These are the messages that give more pain even than the bullet or bayonet, and terrible it is to think that when men meet in battle the rapid fire of the rifle is doing its work not only in the field, but far away in distant cities and villages, where the sound of the fighting cannot be heard; and where there are women and children and old men to whom that fight will bring sorrow and pain and even death as surely as if the rapid rifle-fire itself had swept them down. This is perhaps the darkest side of the picture, the portion of the loss caused by war, which our statistics cannot touch.—*Chambers' Journal*.

SNOW-STAINS.

BY A. PERCEVAL GRAVES.

THE snow had fallen, and fallen from heaven,
Unnoticed in the night,
As o'er the sleeping sons of God
Floated the manna white:



Engraved for the *Zodiac* by J. J. Cady, New York.

DR. SCHLIEMANN.

And still, though small flowers crystalline
 Blanched all the earth beneath,
 Angels with busy hands above
 Renewed the airy wreath;
 When, white amid the falling flakes,
 And fairer far than they,
 Beside her wintry casement hoar
 A dying woman lay.
 'More pure than yonder virgin snow
 From God comes gently down
 I left my happy country home,'
 She sighed, 'to seek the town.'
 'More foul than yonder drift shall turn
 Before the sun is high,
 Down-trodden and defiled of men,
 More foul,' she wept, 'am I.
 Yet, as, in mid-day might confessed,
 Thy good sun's face of fire
 Draws the chaste spirit of the snow
 To meet him from the mire,
 Lord, from this leprous life in death
 Lift me, Thy Magdalene,
 That rapt into Redeeming Light
 I may once more be clean.'

Belgravia Magazine.

DR. SCHLIEMANN, THE HOMERIC ARCHÆOLOGIST.

BY THE EDITOR.

HEINRICH SCHLIEMANN, for our portrait of whom we are indebted to the courtesy of Mr. Scribner, was born in 1822 at the little village of Ankershagen, in Mecklenburg. His father, a Lutheran clergyman, inspired him at an early age with an enthusiastic admiration of the heroes of ancient Greece, whose exploits have been immortalized by Homer. On his mother's death, which occurred when he was nine years old, he went to live with his uncle, who was pastor of the village of Kalkhorst, and there, when only ten years of age, he wrote his father, as a Christmas present, an account, in bad Latin, of the principal events of the Trojan War, and of the adventures of Ulysses and Agamemnon, little dreaming that he should offer to the public, twenty-six years later, a learned work on the same subject. While still a mere child, he exhibited other signs of studious aptitudes and literary aspirations; but his father lost his parish and became too poor to pay for his son's schooling, and at the age of fourteen young Schliemann was placed in a grocer's shop in the little town of Fürstenburg. In this shop

he passed five and a half years of his life, occupied in selling herrings, butter, brandy, milk, and salt, in grinding potatoes for the distillery, and in other similar pursuits. He came in contact only with the lower classes of society, and rapidly forgot the little learning he had previously acquired. Subsequently he became an office-boy in a merchant's warehouse at Amsterdam, and here his appetite for knowledge awoke with renewed vigor, languages being his chief passion. He learned English, French, Spanish, Italian, Portuguese, and Dutch, in an astonishingly short time, and with the aid of this knowledge obtained lucrative employment from another Amsterdam firm, who sent him to St. Petersburg as their agent. Here he eventually established himself in business on his own account, and in 1863 retired with a fortune such as his youth had never dreamed of.

In the course of his busy life Schliemann has visited most parts of Europe and America, ascended the Nile and traversed Egypt and Arabia Petrea, and, besides the languages already enumerated, learned Russian, Polish, Swedish, ancient and

modern Greek, and Arabic. When California was made a State in 1850, Schliemann was there (he resided in California from 1847 to 1853), and thus became a citizen of the American Republic. In 1859 he first saw Athens, and, renewing his study of Homer, resolved to devote his vast fortune to the excavation of Troy, Ithaca, and Mycenæ.

Several years more were spent in travel and in the study of archaeology, universal history, and antiquities; and in 1867 he began his explorations in Greece, the first results of which were published in a work written in French in 1869. Five years later he published "Troy and Its Remains," which contains a full account of his researches and discoveries on the site of Ilium and in the Trojan Plain. In 1874 he obtained permission from the

Greek Government to excavate Mycenæ, where, in 1877, he discovered (or believes himself to have discovered) the five royal tombs which local tradition pointed out to Pausanias as those of Agamemnon and his companions. These discoveries and the explorations which led to them are elaborately described in his recently-published work, entitled "Ancient Mycenæ." Schliemann maintains that his discoveries at Mycenæ supply the missing links in the chain of evidence, and prove Homer to have been an Achaian, and his poems no myths.

In 1868 Schliemann received the degree of LL.D. for a scientific dissertation in Greek, and since his successful explorations has been elected a member of numerous learned societies and other public bodies.

LITERARY NOTICES.

PROSE AND VERSE, Humorous, Satirical and Sentimental. By THOMAS MOORE. With Suppressed Passages from the Memoirs of Lord Byron. With Notes Edited by Richard Herne Shepherd, and a Preface by Richard Henry Stoddard. New York: Scribner, Armstrong & Co.

The origin of this volume is thus explained by the Editor, Mr. Richard Herne Shepherd: "The Note-books and commonplace-books of Thomas Moore, together with a large mass of Correspondence, and the original drafts and manuscripts of his principal writings, have been for some time in the possession of the present publishers, and were found on examination to yield so much matter of permanent literary interest that it was thought advisable to place it beyond the possibility of future loss before the dispersion of these Autographs into various hands and places."

The reason seems good and the motive laudable, but it must be confessed that the contents of the volume are hardly so valuable as the two admiring prefaces would naturally lead one to suppose. They consist of a few juvenile pieces quite properly omitted by Moore from his collected poems; about a dozen "satirical and humorous poems," being for the most part squibs and satires suggested by the political and social questions of the time, "dropped by the author," as Mr. Shepherd says, "not on the score of inferior merit, but for reasons of the hour which have long ceased to exist;" the critical papers contributed by Moore to the *Edinburgh Re-*

view, and now first unearthed; a letter to the Roman Catholics of Dublin, discussing the propriety of vesting in the Crown a veto upon the nomination of bishops; a "Comic Opera in Three Acts," written in 1811, and spoken of by Moore as "contemptible" in a letter to Leigh Hunt; a fragment of a prose romance entitled "The Chapter of the Blanket;" ten hitherto unpublished letters to Leigh Hunt, and one to Mrs. Shelley; and the notes or preliminary studies for Moore's *Life of Byron*. It will be seen from this *résumé* that there is sufficient variety in the contents, and the book is by no means without interest to Moore's admirers; but there is nothing in it that can add to the poet's fame or even throw any new light upon his life and character—unless it be the contributions to the *Edinburgh Review*. These will certainly compel a higher estimate of Moore's scholarship and critical powers, and show that with all his wonderful versatility and volubility, he was quite capable of those studious researches which are generally supposed to be the occupation of pedants. The papers on the Greek and Latin Fathers of the Church and on German Rationalism are quite astonishing productions when considered as coming from the pen of one who was supposed to be so constantly engaged in gay flirtations with the Muses. The *Byron Notes* are not, as might be inferred from the title-page, relics of the famous Memoirs written by Byron himself and burned by Murray, but simply the preliminary studies, memoranda, anecdotes, hints, reflections, and references jotted down by Moore while collecting materials for his

Life of Byron. The substance of by far the greater number of them was inserted into that delightful biography, and such as were omitted are chiefly anecdotes which were probably rejected as being too personal in character or of doubtful authenticity. They would furnish material for a few fresh notes to the "Life of Byron," but their chief interest as here printed lies in the glimpse which they afford of the interior of an author's workshop. The letters to Hunt are characteristic and pleasing, but they cannot be regarded as a very material addition to the copious Moore Correspondence already known to the public.

Mr. Stoddard's preface to the American edition is, as a matter of course, very agreeable reading, and the publishers have produced the book in exceptionally elegant and tasteful style.

RUBAIYAT OF OMAR KHAYYAM, the Astronomer-Poet of Persia. Rendered into English Verse. First American from the Third London Edition. Boston: J. R. Osgood & Co.

Of all the poetry of the Orient that has been rendered familiar to Western ears, the Rubaiyat (or Stanzas) of Omar Khayyam are perhaps the most curiously suggestive and interesting. Written in an age usually considered benighted, and in a land where all the other great poets have been members of a dominant religious sect, they are remarkable for their audacious and penetrating scepticism, and for an independence of thought which has been far less common in the East than intellectual subtlety. To the Western reader of to-day it is almost startling to find in them an anticipation of that mental unrest, that questioning of spiritual things, and that materialistic philosophy which have been supposed to distinguish our modern world. Omar, Persian astronomer, tent-maker, and poet—dead these eight hundred years—had completely pre-empted the ground lately reoccupied by the metaphysical and sensuous schools of poetry—had formulated with unequalled force their new-old problems, had exhausted their complaints, and anticipated their solutions and speculations. But for their weight of thought and reserve of expression, one might easily mistake his Stanzas for the most recent addition to what the *Spectator* calls "the poetry of Doubt;" and even the sensuousness of the latest school is found to be but a twice-told and long-familiar tale.

The present collection and translation (understood to be the work of Mr. Edward Fitzgerald) comprises about one hundred out of a total of nearly four hundred Rubaiyat that have been ascribed to Omar Khayyam. These are sufficient to give a fair idea of the quality of his

verse and of the tendency of his thoughts, and as the original Rubaiyat were not intended to form a continuous poem, the omissions are not felt as they would otherwise be. A brief preliminary essay furnishes the needful information regarding the poet and the circumstances under which he wrote; and the translations have received the warmest approbation of scholars. They differ markedly from most current poetry in their quaint directness and simplicity of style.

MONEY. By FRANCIS A. WALKER. New York: Henry Holt & Co.

In his readable and confidence-winning preface to the above-entitled work Mr. Walker observes that if it shall be found to assist the reader in his study of the difficult subject of money it will probably be mainly in the following way: "By rejecting the word *currency* and extending the term *money* to include bank-notes; by a new analysis of the function of money in recording and registering for mutual comparison the values of all commodities in the markets, and the substitution thereupon of the term 'common denominator in exchange' for the inappropriate and misleading term 'measure of value'; and by supplying the omitted proviso to Ricardo's propositions respecting the circulation of debased coins and inconvertible paper, the doctrine of money is relieved of certain factitious features which have obscured or partially concealed the nature and office of that great economical agent." The performance of this service would alone suffice to give a distinct value to any treatise on money, but the foregoing estimate does scant justice to the work as a whole. It contains the substance of a series of lectures delivered before the students at the Johns Hopkins University, and covers the entire field of currency and exchange in a systematic and comprehensive manner. Indeed the chief value of the work, to our mind, lies in its thorough and exhaustive treatment alike of principles and details. The volume, with its ample equipment of notes, is a vast storehouse of facts and arguments, and there is scarcely a writer of any eminence who has dealt with any phase of the money question whose views are not presented either by quotation or synopsis. Mr. Walker's favorite method of exposition is to cite with perfect impartiality the arguments or opinions of the leading authorities on both sides of any debated point, and then to indicate briefly his own conclusions and qualifications. In this way his book is made what the French would call a *redaction* of the whole literature of the subject, and while it will thus direct the student to the

works in which special investigations are to be pursued it will furnish the reader with a convenient and, for most purposes, an adequate history and review of the whole currency discussion. Such a method is decidedly hostile to dogmatism, for it brings out very forcibly the exceeding complexity and difficulty of many of the questions involved and the wide divergence of opinion concerning them which obtains among those who are recognized as authorities; but Professor Walker's aim is to have his subject understood rather than to establish any special views, to emphasize the difficulties that beset the path of the student rather than to conceal or belittle them. He prosecutes the inquiry in a true scientific spirit, and if all investigators had addressed themselves to it with an equal freedom from prejudice and bias the subject of money would hardly have remained till now the least understood part of political economy.

The work being a systematic scientific treatise touches only incidentally upon current topics, yet references to these topics are often made for purposes of illustration. For example, Professor Walker is a bi-metalist by conviction, but that does not lead him to palliate an attempt to reestablish the double standard *because* one factor has become depreciated in value. In many other ways the book will serve to enlighten the public judgment concerning matters of immediate interest, and we commend it to all who can appreciate a calm and comprehensive discussion of one of the most important subjects that now solicits the attention of our people.

ROMANCES OF THE EAST (NOUVELLES ASIATIQUES). From the French of Comte de Gobineau. (No. 7. Collection of Foreign Authors.) New York: D. Appleton & Co.

In our notice of the initial volume of the "Collection of Foreign Authors"* we remarked that the enterprise promised to "add materially to the resources of that class of readers who seek mental recreation in the better class of current fiction." That promise has been amply fulfilled, and the six volumes since published have succeeded in a remarkable degree in combining French brightness and literary skill with a purity of sentiment and an elevation of thought that are not usually regarded as characteristic of the French school of novelists. Perhaps the most entertaining and certainly the most unique of the entire series is the volume now under notice, a translation of the Comte de Gobineau's *Nouvelles Asiatiques*, which have already be-

come famous on the other side of the Atlantic. The author was for many years French ambassador at the court of Persia, and while there was evidently a minute, patient, and sympathetic observer of the customs, manners, habits, characters, ways of life, and modes of thought of the people around him. Instead of throwing the results of his observations into the customary form of a book of travels, he adopted the better plan of writing a series of romances which would enable him to deal with personal character and manners as well as with the external aspects of the country, and which would possess the true local color and not be merely the superficial survey of the casual traveller or looker-on. Of the five stories in the volume three are Persian tales proper, one is a story of the Russian Caucasus, and one is a tale of Afghanistan. One of the Persian tales, "The War with the Tarkomans," is without doubt one of the best short stories ever written; and every tale in the book might be cordially praised for some special merit of graphic portraiture, humorous insight, picturesque description, or narrative skill. There is not one of them that fails to leave a distinct and vivid picture and a number of clearly individualized characters in the reader's mind; and, taken as a whole, they give us a clearer idea of the real life of Oriental peoples than could be obtained from entire libraries of the ordinary books of travel.

It might sound extravagant to say that the reader will be tempted to place these *Nouvelles* on the same shelf with the Arabian Nights; yet, with that immortal exception, there is no book which possesses more of that peculiar charm which still hangs around every thing connected with the original motherland of Romance.

THE CYCLOPEDIA OF BIOGRAPHY: A Record of the Lives of Eminent Persons. By PARKE GODWIN. New Edition, with a Supplement brought down to August, 1877. New-York: G. P. Putnam's Sons.

So many merits were possessed by this compilation that it is surprising that it should ever have been allowed to go out of print, and the new edition, improved as it is in many ways, can hardly fail to obtain another long lease of popularity. It combines in a rare degree brevity and comprehensiveness, accuracy of detail with conciseness of language. Little space is consumed in the expression of critical opinions, but the essential dates and facts in the lives of the eminent men and women of all times are given in such a manner that every line—almost every word—tells. One important advantage which it possesses

* See ECLECTIC, for September, 1877.

over any foreign work of a similar character lies in the larger proportion of space assigned to American worthies, and another, as Mr. Godwin says, in its "fidelity to the sympathies and principles of the American people." The supplementary matter in the present edition fills three hundred and thirty-two pages and brings the record down to August, 1877; and we do not hesitate to say that for those who cannot afford or do not require the more voluminous works this is by far the most trustworthy and desirable dictionary of biography.

ANALYTICAL REVIEWS OF CLASSICAL AND MODERN COMPOSITIONS, FOR THE USE OF AMATEURS AT MUSICAL ENTERTAINMENTS. Compiled from the Best Authorities and Writers. New York: Charles F. Tretbar, Steinway Hall.

Under the above title there is appearing, in pamphlet form, a series of musical reviews which ought to be very helpful to that large class of concert-goers who love music without knowing much either of its technique or its literature. The object kept in view by the compiler is to be explanatory and interpretive rather than critical—to show in a general way what is the aim and *motif* of a composition and to direct attention to its distinguishing characteristics and particular beauties. For this purpose the leading authorities in musical criticism are consulted and quoted, and illustrative passages from the composer's score are inserted in the text. In such specimens as we have examined, the work is performed in a skillful and discriminating manner, and the series gives good promise of fulfilling its primary intention, which is to serve as "a guide for the better appreciation of the beautiful in music." Twelve numbers, each complete in itself, have been issued, and contain reviews of some of the most celebrated compositions of Beethoven, Mozart, Schumann, Schubert, Liszt, and other well-known composers.

FOREIGN LITERARY NOTES.

SOME very curious and hitherto unpublished letters, written by members of the Wesley family, are now being given to the world, for the first time, in the *Quiver*.

LOVERS of indexes will be glad to hear that an Index Verborum to the 'Grammatica Celtica' of Zeuss is in course of preparation by Mr. J. Molloy.

AN interesting fragment of an historical papyrus, recording the fifty-fourth and fifty-fifth years of Rameses II., has been lately acquired by the British Museum.

MR. H. R. HAWES is engaged on a new series of studies in music, to form a supplement to his 'Music and Morals,' and he is also going to issue, it is said, a 'Study in Early Church History.'

A SERIES of ten letters on the Eastern Question, explaining the Russian point of view, will shortly be published. They are from the pen of a Russian lady of European celebrity. Mr. Froude has written a Preface to the volume.

LIEUTENANT C. R. CONDER, R. E., is engaged in preparing for the press a book entitled *Tent-work in Palestine*, in which he will give an account of his work, its progress and difficulties, together with some of its results.

MR. ELLIOT STOCK has obtained permission to reproduce in facsimile the copy of the *Imitatio Christi* in the handwriting of Thomas à Kempis, which is in the Royal Library at Brussels. It will probably be published during the early portion of this year.

THE Delegates of the Clarendon Press will shortly issue through Messrs Macmillan & Co. a school edition of Burke's 'Letters on a Regicide Peace,' with introduction and notes by Mr. E. J. Payne.

THE Rev. J. P. Mahaffy is engaged upon a new edition of his *Rambles and Studies in Greece*, which, besides being revised throughout, will contain additional chapters on Olympia and Mycenae, dealing fully with recent discoveries. A map also will be added.

AFTER an interval of twenty-seven years, the series of the *Byzantine Historians*, published by the Berlin Academy, is at last to be completed. Only two volumes were wanting—the second of Anna Comnena and the third of Zonaras. The former is now in the press, and the latter may be looked for towards the end of next year.

MESSRS. MACMILLAN & Co. have in preparation the first part of a *Course of Instruction in Zoology*, by Prof. Huxley, assisted by Mr. T. J. Parker. This part will consist of directions for the dissection of readily obtainable examples selected from each of the classes of the Vertebrata, accompanied by full descriptions of the part displayed.

A VERY rare Anglo-Saxon document, an original charter of Uhtred, Sub-regulus of the Wicil, or inhabitants of Worcestershire, has just lately been found in the library of the Dean and Chapter of Worcester Cathedral. Its text has eluded the vigilance of Kemble. Mr. W. de G. Birch will edit it for the Royal Society of Literature.

MR. F. ARMITAGE, of Worcester College, is preparing a reading book for Provençal, from printed works and manuscripts, in chronological order. If we are not mistaken, M. Paul Meyer, Professor in the Collège de France in Paris, is busy on a similar work for French students. In German Universities Dr. Bartsch's chrestomathy is used.

THE volume containing the Transactions and Proceedings of the recent Conference of Librarians is now ready. It is edited by the secretaries of the Conference, and is preceded by an Introduction from the competent pen of Mr. Garnett. An Appendix contains thirteen separate papers, an account of the visits to the libraries of London, the speeches at the Lord Mayor's dinner, &c. There is an Index by Mr. Tedder, which is intended to serve as a model for the new society. Each member of the Library Association is entitled to a copy of this handsome volume, which is printed at the Chiswick Press, but a few extra copies have been struck off for a limited number of subscribers.—*Athenæum*.

SCIENCE AND ART.

"THE SNOWY POLES OF MARS."—In a paper read at a meeting of the Royal Astronomical Society, Mr. Brett argues against the hypothesis, that Mars is in a condition similar to that of the earth. He grounds his conclusion on the fact that in all his observations of Mars he has seen no clouds in the atmosphere thereof. That atmosphere is very dense, of great bulk, and is probably of a temperature so high that any aqueous vapor contained therein is prevented from condensation. Mr. Brett implies that the glowing red color of the middle of the disk is glowing red heat; and he remarks, in terrestrial experience there is always an intermediate phenomenon between vapor and snow, namely opaque cloud; and the absence of this condition seems fatal to the hypothesis that the white polar patch, as hitherto supposed, consists of snow. According to Mr. Brett this patch is not only not snow; constitutes no part of the solid mass of the planet; but is nothing more than a patch of cloud, "the only real cloud existing in Mars."

CHROMATIC ABERRATION OF THE EYE, AND PERCEPTION OF DISTANCE.—No one now-a-days supposes that the human eye is a perfect optical instrument, at least in the sense in which an optician speaks of an instrument as perfect. The eye possesses, for example, decided chromatic aberration. Rays of light of dissimilar color are not brought at once to an exact focus upon the retina, but each color has its own focal distance. Let a red object

and a blue object, of equal size, stand side by side, and it will be found that the images of these two can not be in focus at the same time; therefore the two objects appear to be unequally distant, or of unequal magnitude. Hence estimates of distance founded on apparent magnitude are liable to be rendered fallacious by the color of distant objects. And, on the other hand, estimates of distance founded on color are liable to be confused by apparent magnitude. So far as our ideas of distance are dependent on the accurate focusing of rays upon the retina, it is evident that a source of error must be thus imported into the data of our perceptions. The subject has lately been very ingeniously handled by Mr. S. P. Thompson, of the University College of Bristol. He enumerates the various data for forming an estimate of distance which are dependent upon the eye, and not upon the limbs. After discussing the respective values of these data under various circumstances, he inquires how far they may be dependent upon the color of an object or upon the formation of an exact focus on the retina. Mr. Thompson concludes that the muscular sensation of adjustment of the eye to the focus of its lenses affords a possible means of estimating distances. When binocular methods, and those dependent on association of visible form and magnitude, fail, then the eye falls back upon color as a means of effecting this. In fact, color may in some cases outweigh the evidence of binocular vision. The chromatic aberration of the eye accounts for the well-known opinion of artists, that blue is a retreating color, and red an advancing color. Aerial perspective is indeed a true expression of a physical fact in the perception of distance. Mr. Thompson's paper is interesting as offering a scientific explanation of certain empirical rules of artistic practice, relative to the expression of distance in painting.

THE SPIROPHORE.—This instrument, devised by M. Woillez for resuscitating asphyxiated persons, and particularly those who have been in danger of death by drowning, is claimed to be superior to all other methods or appliances employed for such purposes. It consists of a sheet iron cylinder large enough to receive the body of an adult person. This cylinder is closed at one end, and the body of the patient is inserted, feet foremost, at the open end, up to the neck, round which a diaphragm is placed in such a manner as to prevent air from entering the cylinder. An air pump is then set to work; the air is drawn off from the cylinder, with the result of causing a partial vacuum, when the outer air by its weight forces itself into the lungs through the mouth and nostrils, which are exposed to the external air; by an oppo-

site action of the pump the air is allowed to re-enter the cylinder, and respiration is thereby imitated. A glass plate inserted in the cylinder enables the operator to watch the movements of the chest, which rises and falls as in life, with the alternate working of the pump; these may be repeated about eighteen times a minute, and an exact imitation of natural breathing is thereby effected.

IS NITROGENOUS FOOD FATTENING?—Experiments on the fattening of animals by Messrs. Lawes and Gilbert help to settle the much-debated question as to whether fat is produced exclusively from nitrogenous food or not. Their conclusion is that excess of nitrogen contributes to growth but not to fattness. 'There is, of course,' they say, 'a point below which the proportion of nitrogenous substance in the food should not be reduced; but if this be much exceeded, the proportion of the increase, and especially of the fat-increase, to the nitrogenous substance consumed, rapidly decreases; and it may be stated generally, that taking our current fattening food-stuffs as they are, it is their supply of digestible non-nitrogenous, rather than of nitrogenous constituents which guides the amount, both of the food consumed and of the increase produced, by the fattening animal.'

A CHEAP TELEPHONE.—Professor Barrett, in a recent lecture on the telephone, gave, says *Nature*, a receipt for making a cheap one. Take a wooden tooth-powder box and make a hole about the size of a half-crown in the lid and the bottom. Take a disc of tinned iron, such as can be had from a preserved meat tin, and place it on the outside of the bottom of the box, and fix the cover on the other side of it. Then take a small bar-magnet, place on one end a small cotton or silk reel, and round the reel wind some iron wire, leaving the ends loose. Fix one end of the magnet near, as near as possible without touching, to the disc, and then one part of the telephone is complete. A similar arrangement is needed for the other end. The two are connected by the wire, and with this Professor Barrett says he has been able to converse at a distance of about one hundred yards.

MOTHS HEAR, BUT DO NOT SMELL.—A correspondent of *Nature* describes some interesting experiments upon moths to test their senses of smell and hearing. Certain moths when captured feign death. While they are thus motionless, if a sharp sound be made, such as is produced by striking a piece of glass, they will be suddenly roused, and will attempt to fly. On the other hand, a strong solution of ammonia, uncorked close to moths, has no effect in driving them away; they do not seem

to smell it, and only move away from the fumes slowly when oppressed by them. The latter experiment must occasion surprise, because it was believed that moths possessed an unusually effective sense of smell, since the males of certain species will come from great distances to visit a female kept in captivity, and it has been hitherto supposed that they were guided in their quest by the olfactory sense.

METEORITES.—Professor Tschermak, of Vienna, has issued a short notice of the important additions made, down to the end of September, 1877, to the collection of meteorites under his care. During the last five years, stones from twelve and irons from eight new localities have been added. The remaining (fourth) fragment of the giant stone of Knyahinya has been acquired by purchase, and it now weighs, in its entirety, 293 kilog. A large mass of iron, weighing 198 kilog., from the Bolson de Mapini, Cohahuila, Mexico, has likewise been acquired. The total number of falls now represented is 308; in 1819 the number was 36; in 1843 it rose to 94; in 1859 it was 176, and in 1868 it attained 244. Since 1869 Professor Tschermak has added specimens of 64 falls, previously not represented, to the collection; and the total weight of meteoric matter has during the interval been increased from 570 kilog. to 1025 kilog. The most recent aerolitic showers, of which specimens have been secured, are those which occurred at Iowa City (Amana), Iowa, February 12th, 1875; and Zsadany, Temeser Comitát, Hungary, March 31, 1875; and the last new meteoric iron comes from Nenntmannsdorf, Pirna, Saxony, and bears the date 1872.

VARIETIES.

THUNDERSTORMS.—The size of the district over which a thunderstorm spreads is usually somewhat limited; but occasionally they stretch over hundreds of miles. One is recorded which stretched two hundred miles—from Antwerp to Minden—and another in India, which covered a district six hundred miles from north to south, and fifty miles in breadth. The flashes of lightning frequently extend a mile or two in length, and instantaneously divide the air throughout their whole course. The sudden rushing together of the air also takes place at once, but the sound which is thereby produced takes some time to travel to the ear. When the storm is immediately overhead, the flash of the lightning and the crash of the thunder are simultaneous; but ordinarily the first thunder sound comes from that part of the path of the lightning which is nearest to us, and the rolling noise is produced

by the waves of sound as they successively reach the ear. The lightning of the near thunderstorm darting through the air passes where it meets with least resistance, and, therefore, often appears zigzag, or it gives off branches which make it seem forked. Sheet lightning, when flash after flash quickly illumines the murky sky, sometimes, at dusk or at night, looking blue or violet, or even pale green, is generally accompanied by low and distant thunder. The silent lightning, or summer lightning, which with its faint quivering radiance fitfully lights up the evening sky for hours in summer, is the reflection of the lightning of distant storms. Sometimes lightning takes the form which is called "bull lightning," but this is one of unusual occurrence. The lightning appears like a globe, sometimes moving slowly, sometimes being stationary, but in a short time exploding with violence. This form of lightning has not as yet been satisfactorily explained. The rain that comes with thunder pours down with extreme violence, and among the hills the brooks and rivers become swollen so that they rush along their channels with increased force, and sweep all before them. The trees bend and sway under the weight of the storm-wind, and the commotion of the elements is such that it seems as if nothing but destruction can follow in its train. But to those who know how to regard wisely the phenomena of the storm, the magnificent spectacle which it presents is but another manifestation of the power of nature's God working through laws to the carrying out of a definite end. The disturbed electrical condition of the air must be righted, in order that life may be carried on, and the storm is the means by which the normal state of things is regained.—*Sunday Magazine*.

ANECDOTE OF THEODORE HOOK.—Strolling one day arm-in-arm with Daniel Terry, the actor, up a street in Soho, his nostrils were assailed by a most savory odor. Looking down an area, he saw the servants in the kitchen below dressing up a very fine dinner. "A party, no doubt," said Terry; "jolly dogs! what a feast! I should like to make one of them." "I'll take a bet I do," replied Hook. "Call for me here at ten." Leaving his friend, he mounted the steps and knocked at the door. Believing him to be one of the expected guests, the servant conducted him to the drawing-room, where a number of people were already assembled. Making himself perfectly at home, he had half-a-dozen people about him, laughing at his *bons mots*, before the host discovered that a stranger was present. "I beg your pardon, sir," he said, addressing the uninvited one, "your name?"—I did not quite catch it; servants are so

incorrect." "Smith, sir, Smith," replied the unblushing Theodore, "don't apologise; you are quite right, sir, servants are great block-heads: I remember a most remarkable instance of their mistakes." "But really, sir," interrupted the host mildly, "I did not anticipate the pleasure of Mr. Smith's company to dinner. Whom do you suppose you are addressing?" "Mr. Thompson, of course," answered Hook, "an old friend of my father's. I received a kind invitation from you yesterday, on my arrival from Liverpool, to dine with you to-day, family party, come in boots, you said." The host at once disclaimed the name of Thompson, or any knowledge of the vivacious Smith. "Good heavens! then I have come to the wrong house," exclaimed the hoaxer, "my dear sir, how can I apologise? so awkward too, and I have asked a friend to call for me." The old gentleman, probably thinking so witty a personage would make an excellent addition to his party, begged him to remain. With a profusion of apologies, Hook at first pretended to decline—ultimately accepted. Every body was delighted with him, all the evening he kept up a constant fire of wit and repartee, and ultimately sat down to the piano, and sang extempore verses on every one present. In the midst of these the door opened and, true to his appointment, in walked Terry, at the sight of whom, striking a new key, he sang:—

I'm very much pleased with your fare,
Your cellar's as fine as your cook;
My friend's Mr. Terry, the player,
And I'm Mr. Theodore Hook.

And "that name," says Lockhart, "was already enough to put any wig in Guildhall out of curl."

AUTUMN.

THE dying leaves fall fast,
Chestnut, willow, oak, and beech,
All brown and withered lie.
Now swirling in the cutting blast,
Now sodden under foot—they teach
That one and all must die.

This autumn of the year
Comes sadly home to my poor heart,
Whose youthful hopes are fled.
The darkening days are drear,
Each love once mine I see depart
As withered leaves and dead.

But is it all decay?
All present loss?—no gain remote?
Monotony of pain?
Ah! no. I hear a lay
The robin sings—how sweet the note,
A pure unearthly strain.

And, of all flowers the first,
Beneath these leaves in spring shall blow
Sweet violets blue and white.
So all lost loves shall burst,
In springlike beauty, summer glow,
In heaven upon our sight.

M. C. C.

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